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Rhode Island Medical Journal

3-170
January 1983
Volume 66, Number 1

La Colique
by Honoré Daumier

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NEWSLETTER

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CME CALENDAR

4a

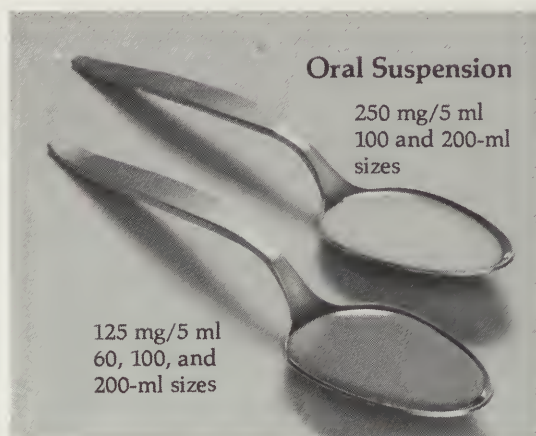
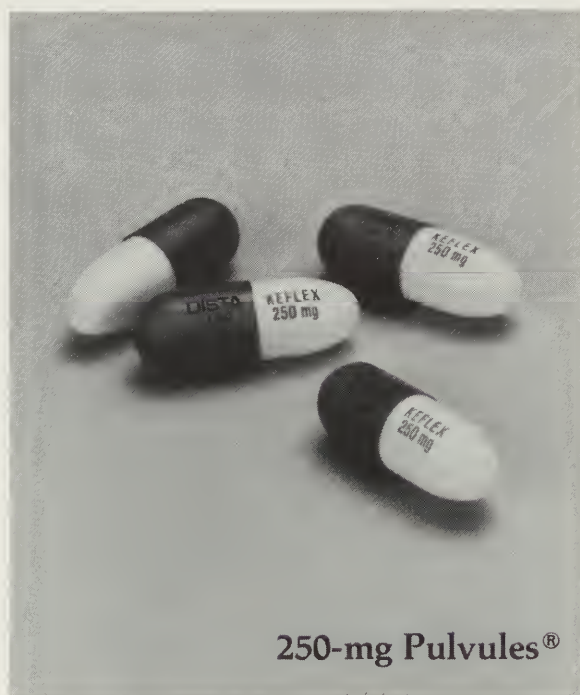
EDITORIALS

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NECROLOGY 1982

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Newsletter

January 1983

Melvin D. Hoffman, MD, Editor
Karen Challberg, Associate Editor

FROM THE COUNCIL ...

- . A motion was approved to authorize the President to appoint a nominating committee to prepare a list of candidates for officers for 1983-1984 to be presented to the Council. The committee will consist of two Councillors, two Delegates, and the President.
- . A motion was approved to retain Charles E. Butterfield, Esq. as Legislative Counsel to the Rhode Island Medical Society in 1983.
- . A motion was approved to endorse a recommendation of the Committee on Delivery of Medical Care in favor of a physician directory published by the Rhode Island Medical Society with the understanding that physician participation is voluntary and that a second edition (probably with sharply increased participation) is mandatory.
- . A motion was approved to endorse the document, "Emergency Medical Services Pre-hospital Chain of Command," and to refer it to the House of Delegates for final approval.

PATIENTS SATISFIED WITH WAITING TIMES IN THE DOCTOR'S OFFICE

Satisfaction with various aspects of medical care increased from 1975 to 1980. Satisfaction was highest among those going to a private doctor's office for care and lowest among those using an emergency room. From the patient's perspective, more satisfactory waiting times in the doctor's office was the biggest improvement from 1975 to 1980.

(from "Results of the 1980 Rhode Island Health Interview Survey with Comparisons to 1972 and 1975," Rhode Island Department of Health, 1982)

PROVIDENCE JOURNAL EDITORIAL: 'QUALITY' MEDICAL CARE

In an editorial in The Providence Journal on December 3, 1982 Charles Millard MD argued against proposed major changes at Rhode Island Hospital and the Brown University Program in Medicine on the grounds that they "would cost the citizens of Rhode Island considerable additional amounts of money which are not affordable in view of the plethora of physicians and the present Rhode Island economy." Dr. Millard further states: "To argue...that 'quality' of care will be improved is not sufficient. 'Quality' is a nebulous term and difficult to quantify."

ACCIDENT DEATH TOLL IN 1981

Accidents caused an estimated 100,500 deaths in the United States in 1981, about 4,500 fewer than in the previous year. The provisional mortality rate from accidents in 1981 was 43.8 per 100,000 population, as compared with 46.2 per 100,000 population in 1980. This estimated death rate for 1981 is the lowest on record.

(from Statistical Bulletin, Volume 63, Number 1)

PRIMER ON ALLERGIC AND IMMUNOLOGIC DISEASE PUBLISHED BY JAMA

The Journal of the American Medical Association (JAMA) devoted its entire November 26, 1982 issue to publishing a Primer On Allergic and Immunologic Diseases. The 194 page document, prepared under the auspice of the American Academy of Allergy and Immunology (AAAI), provides an authoritative and concise learning tool for medical students, residents and clinical practitioners.

REGIONAL DIFFERENCES: WHERE DO PHYSICIANS PRACTICE?

According to a survey of The Robert Wood Johnson Foundation, the physician/population ratio in the northeast is 197.0/100,000; in the north central states 141.1/100,000; in the south 140.1/100,000; and in the west 179.0/100,000.

(from Medical Practice in the United States: Special Report by The Robert Wood Johnson Foundation)

PERIPATETICS

Recently elected officers of the Bristol County Medical Society are Leonard Parker MD, President; Nicholas Califano MD, Vice President; David Newhall MD, Councillor; and Patricia Hyzinski MD, Delegate.

The newly elected officers of the medical staff of Roger Williams General Hospital are H. Raymond McKendall MD, President; Henry S. Urbaniak, Jr MD, Vice President; Anthony Testa MD, Secretary-Treasurer; and Cyril Bellavance MD, Executive Committee representative.

Edwin Gold MD is the winner of the Martha May Elliott Award from the American Public Health Association's Maternal and Child Health Section.

Joseph L. Dowling MD is a recipient of a Distinguished Service Award by the Brown University Program in Medicine for his contribution to medical education.

The University Club presented its Man of the Year Award to A.A. Savastano MD (presentation was made by Charles E. Clapp II, Esq., Rhode Island Medical Society legal counsel).

SIXTH ANNUAL PERINATAL SEMINAR

The Sixth Annual Perinatal Seminar, Current Concepts in Fetal and Neonatal Care, is scheduled for May 25-26, 1983 at the Marriott Inn, Providence. The registration fee for the 1½ day conference is \$50 for nurses (\$35 for Wednesday/\$20 for Thursday) and \$80 for physicians (\$60 for Wednesday/\$30 for Thursday). CME credits will be available. For more information contact Rhode Island Medical Society (RIMS) (401) 331-3207.

CONFERENCE AGENDA

Wednesday, May 25 - Moderator Lorand Brown MD

8:00 - 8:30	Registration/Coffee
8:30 - 8:40	Welcoming Remarks; Melvin D. Hoffman MD, President, RIMS
8:40 - 9:20	Vaginal Birth After C-Section; William Spellacy MD
9:20 - 10:00	Nursing Management of Patient Attempting Vaginal Birth After C-Section; Mary Haire RN, MSW
10:00 - 10:30	Coffee Break
10:30 - 11:10	Obstetrical and Pediatric Evaluation IUGR (SGA); William Oh MD
11:10 - 11:50	Medical Legal Implications of Obstetric-Neonatal Practice; Leonard Decof Esq.
11:50 - 12:15	Panel Discussion
12:15 - 1:30	Lunch
1:30 - 2:45	Workshops
2:45 - 3:15	Break/Rotation
3:15 - 4:30	Workshops

WORKSHOP TOPICS (1) Contemporary Management of the Patient with Diabetes, (2) Infant Resuscitation, (3) Ultrasound, (4) Fetal Monitoring, (5) Management of the Patient with Premature Labor, (6) When Low Risk Fails to Produce a Nine and Ten

Thursday, May 26 - Moderator William Hollinshead MD

8:00 - 8:30	Registration/Coffee
8:30 - 9:10	Management of the Patient with PROM; Donald Coustan MD
9:10 - 9:50	Pediatric View: Management of the Patient with PROM; Jerome Klein MD
9:50 - 10:20	Coffee Break
10:20 - 11:15	Management of the Patient with Herpes; Judith Martin RN
11:15 - 12:00	Panel Discussions

TWO SENTENCE ESSAY: STRESS TEST

We've invented something called the great campaign stress test. We take these (presidential) candidates, follow them from Ramada Inn to Ramada Inn, feed them nothing but creamed chicken and peas, record their every word of wisdom.

You put anybody in that kind of situation and sooner or later they're going to say something stupid.

(...James David Barber, author of The Pulse of Politics: Electing Presidents in the Media Age)

STAFF CHANGES

Wendy J. Smith, currently on the staff of the American Society of Internal Medicine in Washington, D. C. has been appointed as Assistant Executive Director replacing Miss Challberg. Ms. Smith was at the Illinois State Medical Society for four years before joining ASIM in 1978. Her appointment at RIMS is effective in January.

Continuing Medical Education

WINTER-SPRING 1983 Semi-Annual Calendar

January

- 7 "NEPHROLOGY," Owen B. Gilman MD; Kent Cty Mem Hosp
 - 10 "HYPERACTIVE AIRWAY DISEASE," Mohammad Khan MD;
Fogarty Hosp
 - 10 "NURSING SHORTAGE -- FACT OR FANTASY: IT'S EFFECT ON
THE CARE OF THE ELDERLY; PHYSICIAN SURPLUS -- FACT OR
FANTASY: IT'S EFFECT ON THE CARE OF THE ELDERLY,"
Joyce Y. Passos PhD; Donald C. Williams; RIMC Gen Hosp
 - 11 "THE THIRD ANNUAL PAUL CALABRESI ONCOLOGY LECTURE:
CHEMOTHERAPY OF BREAST CANCER," Gianni Bonadonna MD;
RWGH
 - 12 "AUTISM & PRAGMATICS: RECENT TRENDS IN COMMUNICATIONS
RESEARCH AND ASSESSMENT AND INTERVENTION," Barry M.
Prizant PhD; Bradley Hosp
 - 14 "LASER PHOTOCOAGULATION FOR DIABETIC NEUROPATHY,"
Paul Koch MD; Kent Cty Mem Hosp
 - 14 "NOONAN SYNDROME: A CLINICAL STUDY," Jacqueline
Noonan MD; RIH
 - 17 "A NEW APPROACH TO DIFFUSE INFILTRATIVE LUNG DISEASE,"
Theresa C. McCloud MD; RIH
 - 19 "HEPATITIS B VIRUS INFECTION: IMPLICATIONS FOR THE
HEALTH CARE PROFESSIONAL," Georges Peter MD; Newport Hosp
 - 21 "HEPATITIS," Georges Peter; Kent Cty Mem Hosp
 - 21 "LEUKEMIA -- PERSPECTIVES 1983," Diane M. Komp MD;
RWGH
 - 24 "HOME CARE FOR GERIATRIC PATIENTS IN RHODE ISLAND,"
Sumner H. Hoffman MD; RIMC Gen Hosp
-

Listings above are abbreviated and include only activity titles, principal speakers, and sponsors. Sponsor organizations should be contacted to confirm advance dates, and for the times and locations of the programs. The calendar is open for listings of significant CME activities throughout Rhode Island.

January (continued)

- 27 "PEDIATRIC NIGHT TIME PROBLEMS," Christine Butler RN, BSN, PNP; Edward Collins MD; Frank DeLuca MD; Conrad Wesselhoeft MD RIH
- 28 "NEW MODALITIES IN THE TREATMENT OF CHF," Michael Klein MD; Kent Cty Mem Hosp
-

February

- 1 "BIOFEEDBACK AND TRANSCUTANEOUS ELECTRIC STIMULATION," Toussant LeClerc MD; St Joseph Hosp
- 4 "PEDIATRICS AND INFECTIOUS DISEASE," Charles DeAngelis MD; Kent Cty Mem Hosp
- 9 "ADVANCES IN HEMATOLOGY," Maurice Albala MD; RIH
- 11 "RHEUMATOLOGY," Martha Regan Smith MD; Kent Cty Mem Hosp
- 11 "CEREBRAL BLOOD FLOW AND METABOLISM (pediatric grand rounds)," Robert C. Vannucci MD; RIH
- 14 "COMMON SKIN ERUPTIONS -- GROIN ERUPTIONS," L.A. Fragola MD; Fogarty Hosp
- 16 "ANNUAL KENNEY RESEARCH DAY," Charles Tifft MD; Memorial Hosp
- 18 "TREATMENT OF ACUTE ALCOHOLISM," Bruno Franek MD; Kent Cty Mem Hosp
- 18 "PITFALLS IN THE DIAGNOSIS OF ABDOMINAL PAIN IN CHILDREN," Judah Folkman MD; RWGH
- 22 "CURRENT TOPICS IN PEPTIC ULCER DISEASE," Edward A. Iannuccilli MD; Robert Bowen MD; Peter Kramer MD; RIH
- 23 "COMMON PROBLEMS IN PEDIATRIC ORTHOPAEDICS (teaching seminar)," John E. Handelsman MD and guest speakers; RIH
- 28 "ALCOHOLISM IN THE ELDERLY," David C. Lewis MD; RIMC Gen Hosp
- 28 "AN OVERVIEW OF ARTHROGRAPHY," Gary S. Dorfman MD; RIH
-

March

- 1 "PRACTICAL MANAGEMENT OF DIABETES," Frank D'Alessandro MD; St Joseph Hosp
- 3-4 "TRAUMA CONCEPTS '83: ADULTS & CHILDREN," faculty to be announced; RIH

March (continued)

- 4 "THE ROLE OF CALCIUM BLOCKERS IN ISCHEMIC HEART DISEASE," John Bannis MD; Kent Cty Mem Hosp
 - 8 "PEDIATRIC ORTHOPAEDICS," John E. Handelsman MD and guest speakers; RIH
 - 9 "INTEGRATED MEDICINE AND PSYCHIATRY SEMINAR," co-presented by Paul Calabresi MD and Andrew E. Slaby MD; RIH
 - 11 "CHOOSING LABORATORY TESTS," Joseph Hansagi MD; Kent Cty Mem Hosp
 - 14 "MANAGEMENT OF CHRONIC CORONARY ARTERY DISEASE," Mohammad Arif MD; Fogarty Hosp
 - 18 "NUTRITION," speaker to be announced; Kent Cty Mem Hosp
 - 18 "OBSTRUCTION OF THE AIRWAY," John A. Kirkpatrick MD; RWGH
 - 21 "TOPICS IN BREAST CANCER DETECTION -- PITFALLS & PRACTICAL SOLUTIONS: BREAST IMAGING -- TODAY AND THE FUTURE," Daniel Kopans MD; RIH
 - 25 "CONTEMPORARY MANAGEMENT OF PAIN," Burton Sack MD; Kent Cty Mem Hosp
 - 28 "OBSTACLES AND OPPORTUNITIES IN COMMUNITY CARE OF THE ELDERLY," Hugo Taussig MD; RIMC Gen Hosp
-

April

- 5 "DIFFERENTIAL DIAGNOSIS OF DEMENTIA IN THE ELDERLY," William Golini MD; St Joseph Hosp
- 8 "CONGENITAL AND ACQUIRED MYASTHENIA IN CHILDREN," Manuel R. Gomez MD; RIH
- 8-9 "ADVANCED CARDIAC LIFE SUPPORT COURSE"; RIH
- 11 "CT SCANNING," Syed Sayeed MD and Paul Hessler MD; Fogarty Hosp
- 11 "SOCIO-ECONOMIC FACTORS AFFECTING THE CARE OF THE ELDERLY," Albert Wessen PhD; RIMC Gen Hosp
- 15 "PREVENTION OF INTRACRANIAL HEMORRHAGE IN THE NEWBORN," Jerold F. Lucey MD; RWGH
- 18 "SELECTED TOPICS IN PEDIATRIC RADIOLOGY; RADIOLOGY OF THE ACUTE ABDOMEN IN INFANTS AND CHILDREN," Richard I. Markowitz MD; RIH
- 20 "MANAGEMENT ISSUES IN GERIATRIC MEDICINE," Murray Raskind MD; RIH

April (continued)

- 25 "PHYSIOLOGY & CELL BIOLOGY OF AGING," D.W. Quevedo; RIMC Gen Hosp
 - 26 "WATER AND ELECTROLYTES," Horace Martin MD; Henry Randall MD; RIH
 - 27 "PEDIATRIC GASTROENTEROLOGY (teaching seminar)," Craig Hillemeir MD; RIH
 - 27 "OSTEOPOROSIS: A WOMAN'S DISEASE? -- NEW CONCEPTS AND THERAPY," Steven Krane MD; RIH and American Medical Women's Association
-

May

- 3 "THE TECHNIQUE FOR PACEMAKER AND SWAN-GANZ CATHETER," Richard Iacobucci MD; St Joseph Hosp
 - 6-7 "PLASTIC SURGERY (grand rounds)," Linton Whitaker MD; RIH
 - 9 "PHYSIOLOGIC EFFECTS OF PROSTAGLANDINS," Manfred Steiner MD; RIMC Gen Hosp
 - 13 "PAIN -- ASSESSMENT AND INTERVENTION IN NURSING PRACTICE," Margo McCaffrey; RIH
 - 13 "TEEN-AGE SKIN," William Gerstein MD; RWGH
 - 16 "VISUAL LOSS," Syed Sayeed MD; Fogarty Hosp
 - 16 "NEURORADIOLOGY OF INTRACRANIAL ANEURYSMS; CT DIAGNOSIS OF LUMBAR DISCS AND ITS PITFALLS," Joseph Lin MD; RIH
 - 23 "ACTIVE LIFE EXPECTANCY," Sidney Katz MD; RIMC Gen Hosp
 - 24 "HUMAN SEXUALITY," Steven A. Wartman MD; Samuel Srinivasan MD John Wince MD; Jacqueline Hott RN, PhD; RIH
 - 26 "RENAL DISEASES (teaching seminar)," Joseph A. Chazan MD and guest speakers; RIH
-

June

- 7 "UPDATE IN THE MANAGEMENT OF BURNS,"
- 13 "INCONTINENCE," Marcia D. Fretwell MD; RIMC Gen Hosp
- 13 "BACK PAIN," Jacques Bonnet-Eymard MD; Fogarty Hosp
- 20 "DIZZINESS, LIGHTHEADEDNESS, AND UNSTEADINESS IN THE ELDERLY," Petro Karanasias MD, RIMC Gen Hosp

June (continued)

29 "HEMATOLOGY (teaching seminar)," Maurice Albala MD
with guest speakers; RIH

REGULARLY SCHEDULED ACTIVITIES

Jan 6; Feb 3; Mar 3; Apr 7; Jun 2
"CHAIRMAN'S CASE CONFERENCES"; Butler Hosp


Jan 20; Feb 17; Mar 17; Apr 20; May 19
"GRAND ROUNDS"; Butler Hosp

Jan 17; Feb 28; Mar 21; May 16
"NEUROSCIENCE SEMINAR SERIES '82-'83"; Brown Univ

Mondays and Tuesdays
"CORE CURRICULUM CONFERENCES"; Memorial Hosp

Jan 20, Feb 17, Mar 17
"CLINICAL PATHOLOGICAL CONFERENCES"; RIMC Gen Hosp

Jan 4, Feb 1, Mar 1, Apr 5, May 3, Jun 7
"EDUCATIONAL HOSPITAL PROGRAMS"; St Joseph Hosp



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Rhode Island Medical Journal

January 1983

Volume 66, Number 1

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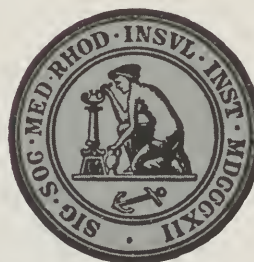
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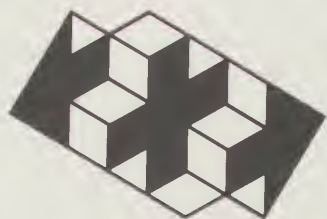
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COVER:

La Colique from a lithograph by the famous French artist, Honoré Daumier. While Daumier does not say, this could well have been lead colic. For more on lead poisoning, see page 37.

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CONTRAINDICATIONS: Advanced arteriosclerosis, symptomatic cardiovascular disease, moderate to severe hypertension, hyperthyroidism, known hypersensitivity, or idiosyncrasy to the sympathomimetic amines, glaucoma. Agitated states. Patients with a history of drug abuse. During or within 14 days following the administration of monoamine oxidase inhibitors (hypertensive crises may result).

WARNINGS: Tolerance to the anorectic effect usually develops within a few weeks. When this occurs, the recommended dose should be discontinued. Phendimetrazine tartrate may impair the ability of the patient to engage in potentially hazardous activities such as operating machinery or driving a motor vehicle; the patient should therefore be cautioned accordingly.

Drug Dependence: Phendimetrazine tartrate is related chemically and pharmacologically to the amphetamines. Amphetamines and related stimulant drugs have been extensively abused, and the possibility of abuse of phendimetrazine tartrate should be kept in mind when evaluating the desirability of including a drug as part of a weight-reduction program. Abuse of amphetamines and related drugs may be associated with intense psychological dependence and severe social dysfunction. There are reports of patients who have increased the dosage to many times that recommended. Abrupt cessation following prolonged high-dosage administration results in extreme fatigue and mental depression; changes are also noted on the sleep EEG, manifestations of chronic intoxication with anorectic drugs include severe dermatoses, marked insomnia, irritability, hyperactivity, and personality changes. The most severe manifestation of chronic intoxication is psychosis, often clinically indistinguishable from schizophrenia.

USAGE IN PREGNANCY: The safety of phendimetrazine tartrate in pregnancy and lactation has not been established. Therefore, phendimetrazine tartrate should not be taken by women who are or may become pregnant.

USAGE IN CHILDREN: Phendimetrazine tartrate is not recommended for use in children under 12 years of age.

PRECAUTION: Caution is to be exercised in prescribing phendimetrazine tartrate for patients with even mild hypertension. Insulin requirements in diabetes mellitus may be altered in association with the use of phendimetrazine tartrate and the concomitant dietary regimen. Phendimetrazine tartrate may decrease the hypotensive effect of guanethidine. The least amount feasible should be prescribed or dispensed at one time in order to minimize the possibility of overdosage.

ADVERSE REACTIONS: Cardiovascular: Palpitation, tachycardia, elevation of blood pressure.

Central Nervous System: Overstimulation, restlessness, dizziness, insomnia, euphoria, dysphoria, tremor, headache; rarely psychotic episodes at recommended doses.

Gastrointestinal: Dryness of the mouth, unpleasant taste, diarrhea, constipation, other gastrointestinal disturbances.

Allergic: Urticaria.

Endocrine: Impotence, changes in libido.

OVERDOSAGE: Manifestations of acute overdosage with phendimetrazine tartrate include restlessness, tremor, hyperreflexia, rapid respiration, confusion, assaultiveness, hallucinations, panic states.

Fatigue and depression usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Fatal poisoning usually terminates in convulsions and coma. Management of acute phendimetrazine tartrate intoxication is largely symptomatic and includes lavage and sedation with a barbiturate. Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendation in this regard. Acidification of the urine increases phendimetrazine tartrate excretion. Intravenous phentolamine (Regitine) has been suggested for possible acute, severe hypertension, if this complicates phendimetrazine tartrate overdosage.

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Reference: 1. Sheu YS, Ferguson JA, Cooper JR: *Evaluation of the Abuse Liability of Diethylpropion, Phendimetrazine, and Phentermine*, unclassified document, ADAMHA, HHS, Office of Medical and Professional Affairs, NIDA, 1980, pp 10-15.

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The Growing Stature of Charles V. Chapin

Published elsewhere in this issue of the *Journal* is a further retrospective on Charles V. Chapin by one of the leading authorities on the life and career of this distinguished Rhode Islander. There is growing recognition of Chapin's seminal contributions in the fields of public health and infection control.

A chapter titled "The Modes of Infection" devoted to Chapin is included in *The Conquest of Epidemic Disease: A Chapter in the History of Ideas* by Charles-Edward Amory Winslow (The University of Wisconsin Press, 1980).

Winslow emphasizes that as early as 1910 Chapin had boldly stated with overwhelmingly convincing evidence all of the essential bases of the modern epidemiology of contagious disease:

1. Disease germs are parasites, adapted to life in the human body (and that of other mammals), and generally die out rather rapidly in the external environment.
2. The primary source of these disease germs is always the human body (or that of one of the higher animals); but this source may be either a well carrier or a sick individual.
3. In view of their poor survival powers in a non-living environment, disease germs (except spore-formers such as anthrax) must be transferred rather promptly from one human being to another, if new infection is to occur.
4. The disease germs are particulate objects, and, on account of this fact and their tendency to

die outside the body, aerial dissemination and transmission by fomites are relatively unimportant.

5. The major modes of transmission are: (a) Direct or indirect contact, (b) Articles of food and drink, and (c) Insect vectors. Despite the explosion of knowledge in the three-quarters of a century since 1910, "the modifications which must be made in Chapin's analysis," Winslow emphasizes, "are surprisingly slight."

Winslow quotes Carlos Chagas, who in 1925 reported to the Fifth Session of the Health Committee of the League of Nations:

"The first man to pass from theory to practice, who had the courage to abandon final disinfection as a preventive measure against infectious diseases, appears to have been Charles Chapin, Head of the Department of Public Health of Providence, USA (sic). . . . This, however, is not Chapin's only contribution to this branch of knowledge. In 1910, he published a book called *Sources and Modes of Infection*, which still remains the most impartial documentary statement of our knowledge concerning the life and virulence of pathogenic microbes in the external world."

We must not let the fame of Charles V. Chapin fade with time. Fortunately, skilled writers such as Winslow and James H. Cassidy are continuing to enhance his reputation.

Seebert J. Goldowsky, MD

Herbert Fanger, MD, 1914-1982

We note with sadness the recent passing of Doctor Fanger, Pathologist-in-Chief at the Rhode Island Hospital and for many years a faithful member of the Publications Committee of the Rhode Island Medical Society and of the Editorial Board

of this *Journal*. We shall miss his unfailing courtesy and his wise counsel.

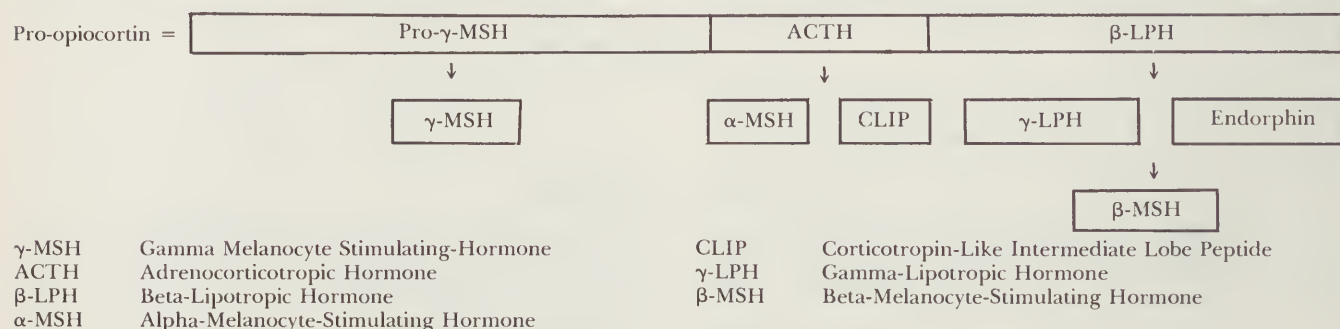
Seebert J. Goldowsky, MD

Endorphin Related Peptides

One of the more fascinating recent developments in endocrinology is the recognition, characterization, localization, and description of the physiological role of the central nervous system endogenous opioid peptides, the endorphins and the enkephalins. The postulated physiological actions of the endogenous opiates are widespread and include hormonal effects, analgesia, alteration of motor activity and sexual behavior, hypothermia, and other possible consequences.

It is now established that corticotropin (ACTH) and beta-lipotropin, a lipolytic hypophyseal polypeptide from which endorphin is derived, are both formed as part of a larger precursor glycoprotein prohormone called pro-opiocortin. The lipotropin segment in turn contains in its structure both the polypeptide sequences of beta-endorphin and the melanocyte-

Nature's sometimes uncanny logic is exemplified in the observation that several peptides, structurally related to ACTH, are formed in the pituitary gland of many species, including man. It has now been demonstrated that all of these peptides are synthesized in the brain and elsewhere as part of a larger common prohormone called pro-opiocortin. Pro-opiocortin is a glycoprotein with a molecular weight of 30,000 plus. This protein contains three basic segments: a pro-gamma-melanocyte-stimulating hormone, ACTH, and beta-lipotropin. There are three melanocyte-stimulating hormones (alpha, beta, and gamma) and two lipoproteins (alpha and beta). There is besides a lower order of corticotropin, designated corticotropin-like intermediate lobe peptide (CLIP). The schema of the breakdown of pro-opiocortin into these substances is as follows:



stimulating hormone, beta-MSH. Both beta-lipotropin and beta-endorphin are stored in the corticotrophic cells of the anterior and intermediate lobes of the pituitary and are secreted in equimolar ratios together with ACTH. Dexamethasone inhibits secretion of all three substances.

The opiate-like peptide beta-endorphin and ACTH are concomitantly secreted in increased amounts by the hypophysis in response to acute stress or long-term adrenalectomy, and in vitro in response to purified corticotropin and other secretagogues. Conversely, as indicated, administration of the synthetic glucocorticoid dexamethasone inhibits the secretion of both adrenocorticotropin and beta-endorphin.

It has been known for some time that secretion of ACTH and beta-lipoprotein appear to be linked, both being present in high concentrations in disorders of hypersecretion (Cushing's syndrome, Addison's disease) and low in conditions of hyposecretion (secondary adrenal insufficiency).

Many tumors appear to be capable of synthesizing the pro-opiocortin molecule or a variation of it. Such has been found particularly in pulmonary oat-cell carcinoma, thymoma, pancreatic adenocarcinoma, and medullary carcinoma of the pancreas.

It is significant that beta-endorphin is secreted stoichiometrically (ie in equimolar ratio with ACTH when ACTH secretion is stress-induced). The physiological role of the endorphins of pituitary origin remains undiscovered. It appears, however, that the concomitant secretion of an endogenous analgesic, beta-endorphin, with ACTH provides another protective mechanism in the adaptation to stress. Further the endogenous opiates may modulate the release of catecholamines and antidiuretic hormone, both important responses to stress.

The recent emergence of the endorphins and also the prostaglandins, has opened up limitless vistas in human physiology.

Seebert J. Goldowsky, MD

(References see page 19)

Rhode Island Medical Society Members 1982

Maurice Adelman, MD

Doctor Maurice Adelman died on November 1, 1982, at 86 years of age. He was a 1920 graduate of Harvard Medical School, and a 1916 graduate of Brown University. He served his internship at the Boston Children's Hospital and his residency at the Charles V. Chapin Hospital in 1923. For 35 years he was medical director and on the board of trustees of the Visiting Nurses Association of Providence. His professional memberships included the Providence Medical Association, the Rhode Island Medical Society, and the American Medical Association. Doctor Adelman was the husband of the late Eleanor Adelman.

F. Bruno Agnelli, MD

Doctor F. Bruno Agnelli died on March 16, 1982, at 76 years of age. Doctor Agnelli served his residency at Knickerbocker Hospital, New York. He did surgical duty at Westerly Hospital from 1933 until 1967. He earned his degree in medicine and surgery in 1930 from the Royal University of Naples, Italy. Doctor Agnelli was a former member of the American Public Health Association and the Royal Sanitary Institute of Health in England. He was an officer of the Westerly Ambulance Corps, a past president of the Westerly unit of the American Cancer Society, a member of the Washington County Medical Society and the Rhode Island Medical Society. Doctor Agnelli was the husband of Nicolina Agnelli.

Kathleen M. Barr, MD

Doctor Kathleen M. Barr died on September 18, 1982, at 84 years of age. She was a 1920 graduate of Pembroke College, now Brown University, where she received her bachelor of arts degree, and four years later she graduated from Tufts Medical School, Boston. She interned at Gallinger Municipal Hospital, Washington, DC and was later chief of resident physicians. She was the first woman to intern on the Gallinger staff. She was a member of the American Medical Association, the Rhode Island Medical Society and the American Medical Women's Association. Doctor Barr was the widow of Adolph Joseph Langton.

Benedict Chapas, MD

Doctor Benedict Chapas died on January 26, 1982, at 92 years of age. Doctor Chapas attended Valparaiso University, Indiana and continued his studies at the Chicago College of Medicine and Surgery. He served his residency at St. Joseph Hospital, Providence. He was a World War I veteran of the Army Medical Corps. He was a member of the Fifty-Year Club of the American Medical Association, the Rhode Island Medical Society, and the Providence Medical Association. Doctor Chapas was the husband of Mary Chapas.

George F. Conde, MD

Doctor George Conde died in February, 1982 at 75 years of age. Doctor Conde was a graduate of Holy Cross College in Worcester, Massachusetts in 1927 and of Tufts Medical School in 1931. He completed internships at Rhode Island Hospital and at the Providence Lying-In Hospital. Among his professional affiliations, he was a member of the Providence Medical Association and the Rhode Island Medical Society. Doctor Conde was the husband of Minnie Conde.

Mary B. Corcione, MD

Doctor Mary B. Corcione died on February 21, 1982, at 74 years of age. Doctor Corcione was a 1926 graduate of Classical High School and a 1930 graduate of Brown University. She earned her medical degree at Women's Medical College of Pennsylvania in 1934. She was a member of the American Medical Association, the Rhode Island Medical Society, and the Providence Medical Association. She was the widow of Americo Porreca.

Anthony Corvese, MD

Doctor Anthony Corvese died on August 17, 1982, at 92 years of age. Doctor Corvese was a 1906 graduate of the former Rhode Island College of Pharmacy and a cum laude graduate in 1912 of Tufts Medical School. He interned at the former Providence City Hospital, Providence Lying-In Hospital, and Rhode Island Hospital.

In 1917 he was commissioned in the Army Medical Corps, and served with the Rhode Island Red Cross Unit which responded to the Halifax disaster. His memberships included the American College of Surgeons, the American Medical Association, the Providence Medical Association, the Rhode Island Medical Society, and the Providence Surgical Society. Doctor Corvese was the husband of Mary Corvese.

Constantine G. Demopulos, MD

Doctor Constantine G. Demopulos died on October 3, 1982, at 59 years of age. Doctor Demopulos attended Brown University in 1941 and enlisted in the Navy in 1943. He returned to Brown after being discharged from the service and earned a bachelor of science degree in 1948. He later attended graduate schools at Boston University and the Sorbonne, University of Paris, France. He received his medical degree from Lausanne University, Switzerland, in 1956. He was a member of the Rhode Island Medical Society, president of the Pawtucket Medical Association, a member of the American Fertility Society, the New England Hellenic Medical and Dental Society, and the National American Society of Family and Physicians. Doctor Demopulos was the husband of Tina Demopulos.

Eric Denhoff, MD

Doctor Eric Denhoff died on October 11, 1982 at 69 years of age. Doctor Denhoff earned his medical degree in 1938 from the University of Vermont and served internships at St. Luke's Hospital, New Bedford and Boston City Hospital. During his career he was Chief of the Pediatric Department of The Miriam Hospital, President of the American Academy of Cerebral Palsy, and Chairman of the Handicapped Child committee of the American Academy of Pediatrics. His other professional affiliations included the Providence Medical Association, the Rhode Island Medical Society, and the American Medical Association. He was the husband of Sylvia Denhoff.

Leo Dugas, MD

Doctor Leo Dugas died on November 22, 1982, at 77 years of age. Doctor Dugas attended Providence College. He graduated from Boston University Medical School in 1933. He interned at St. Joseph Hospital in Providence from 1933 to 1934. He also did graduate work at the University of Montreal in the 1940s. Doctor Dugas was a founder of Mercy Hospital, now Fogarty Memo-

rial Hospital, and a former staff member at Woonsocket Hospital. He was the husband of Gladys Dugas.

Herbert Fanger, MD

Doctor Herbert Fanger died on August 2, 1982, at 67 years of age. Doctor Fanger graduated from Harvard University and from the New York Medical College in 1940. He interned at the Metropolitan Hospital, New York from 1940 to 1941. He also served residencies at the Boston City Hospital from 1941 to 1942, Salem Hospital from 1942 to 1944, and the Mallory Institute of Pathology from 1946 to 1947. He served in the Army Medical Corps during World War II. He was discharged with the rank of captain in 1946. Doctor Fanger was a past president of the Rhode Island Cancer Society, the Rhode Island Society of Pathologists, and the New England Society of Pathologists. He was the husband of Shirley Fanger.

Calvin M. Gordon, MD

Doctor Calvin M. Gordon died on August 14, 1982, at 64 years of age. Doctor Gordon graduated from Brown University in 1939 and Harvard Medical School in 1943. He served residencies at the Free Hospital for Women, Brookline, Massachusetts and at the Providence Lying-In Hospital. He was a captain in the Army Medical Corps in World War II. His memberships included the American Medical Association, the Rhode Island Medical Society, the Providence Medical Association, and the American College of Obstetrics and Gynecology.

Hannibal Hamlin, MD

Doctor Hannibal Hamlin died on June 28, 1982, at 78 years of age. He graduated from Philips Exeter Academy in 1923, from Yale University in 1927, and its medical school in 1936. Doctor Hamlin was a medical officer in the Solomon Islands with the 1st Marine Amphibious Unit and tended wounded Marines under fire on invasion beaches. He was an early member of the Academy of Neurological Surgeons and a participant in international societies of neurosurgery in Spain and Scandinavia, whose meetings he attended regularly. Doctor Hamlin was the husband of Margaret Hamlin.

Paul A. Holzinger, MD

Doctor Paul A. Holzinger died on June 21, 1982, at 66 years of age. Doctor Holzinger graduated from the Tartu Medical University in the Repub-

lic of Estonia in 1941. He interned at Roger William General Hospital in 1950. He was a civilian medical officer for the US Armed Forces in Germany in 1945. His memberships included the Providence Medical Association, the Rhode Island Medical Society, and the American Medical Association. Doctor Holzinger was the husband of Elizabeth Holzinger.

Pasquale V. Indeglia, MD

Doctor Pasquale V. Indeglia, died on June 2, 1982, at 75 years of age. Doctor Indeglia graduated from Classical High School in 1926 and was a 1930 graduate of Providence College. He earned his medical degree at Georgetown Medical School in 1934. His internship and residency were at St. Raphael's Hospital, New Haven and the former Charles V. Chapin Hospital. Doctor Indeglia was a member of the International College of Surgeons, American Society of Abdominal Surgeons, College of Chest Physicians, International Vascular Society, American Medical Association, and the Rhode Island Medical Society. He was a past president of the Malpighi Medical Society. Doctor Indeglia was the husband of Marie A. Indeglia.

Valentin P. Klymenko, MD

Doctor Valentin P. Klymenko died on March 7, 1982, at 53 years of age. Doctor Klymenko earned his medical degree and doctorate in philosophic medicine at Ludwig Maximilian's University in Munich, Germany. From 1956 to 1959 he was a lieutenant commander in the US Navy. He was a member of the American Academy of Forensic Sciences, the American Medical Association, the Rhode Island Medical Society, and the Royal British Academy. He was the husband of Liliana Klymenko.

Henry Miller, MD

Doctor Henry Miller died on March 19, 1982, at 71 years of age. He was a 1932 graduate of New York University, and he subsequently earned his medical degree at the University of California, San Francisco. Doctor Miller did his internship and residency at H.C. Moffitt Hospital, San Francisco. He completed his training in medicine and cardiology at Rhode Island Hospital and at the Pratt Diagnostic Hospital, Boston. He was a former professor of cardiology at Tufts University Medical School. Doctor Miller was a fellow of the American College of Cardiology and the American College of Physicians, and a diplomate of the American Board of Internal Medicine. He was a board certified cardiologist and internist. He was a member of the American Medical Association, the American Board of Cardiology, and the Rhode Island Medical Society. Doctor Miller was the husband of Norma Miller.

George W. Waterman, MD

Doctor George W. Waterman died on April 29, 1982, at 89 years of age. Doctor Waterman graduated from Brown University in 1915 and received his medical degree from Cornell University in 1919. Three years later, after an internship and residency in New York City, he established his practice in Providence. He was a past president of the Rhode Island Medical Society, the Providence Medical Association, the New England Surgical Society, the New England Obstetrical and Gynecological Society, the Obstetrical Society of Boston, and the staff association of Rhode Island Hospital. He was also a former vice president of the National Board of Directors of the Roentgen Ray Society. He was a member of the national board of directors of the American Cancer Society, and a prime mover behind the formation of the Rhode Island chapter of that society. Doctor Waterman was the husband of Helen L. Waterman.

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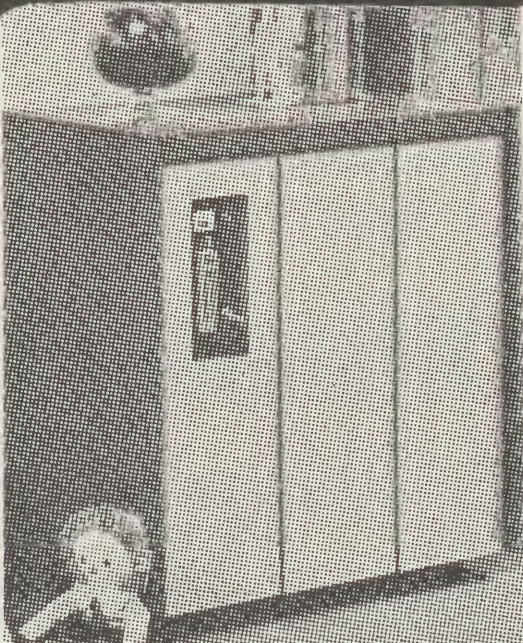
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Endorphin Related Peptides

Continued from page 12

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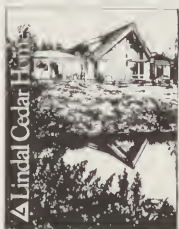
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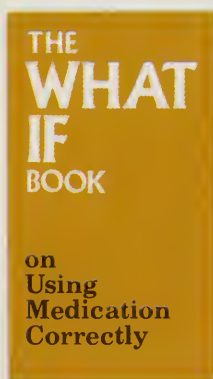
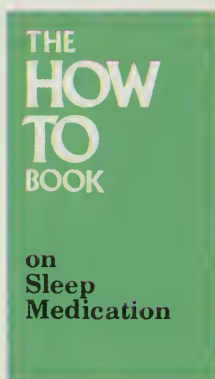
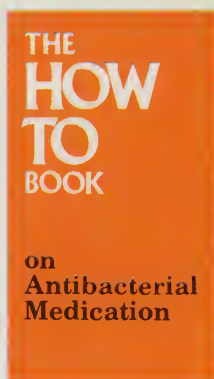
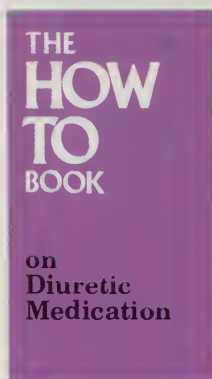
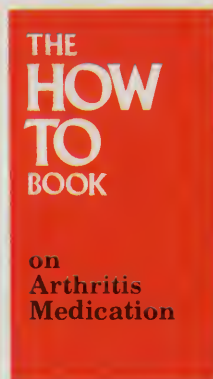
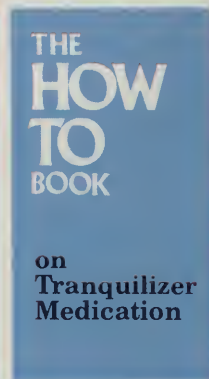
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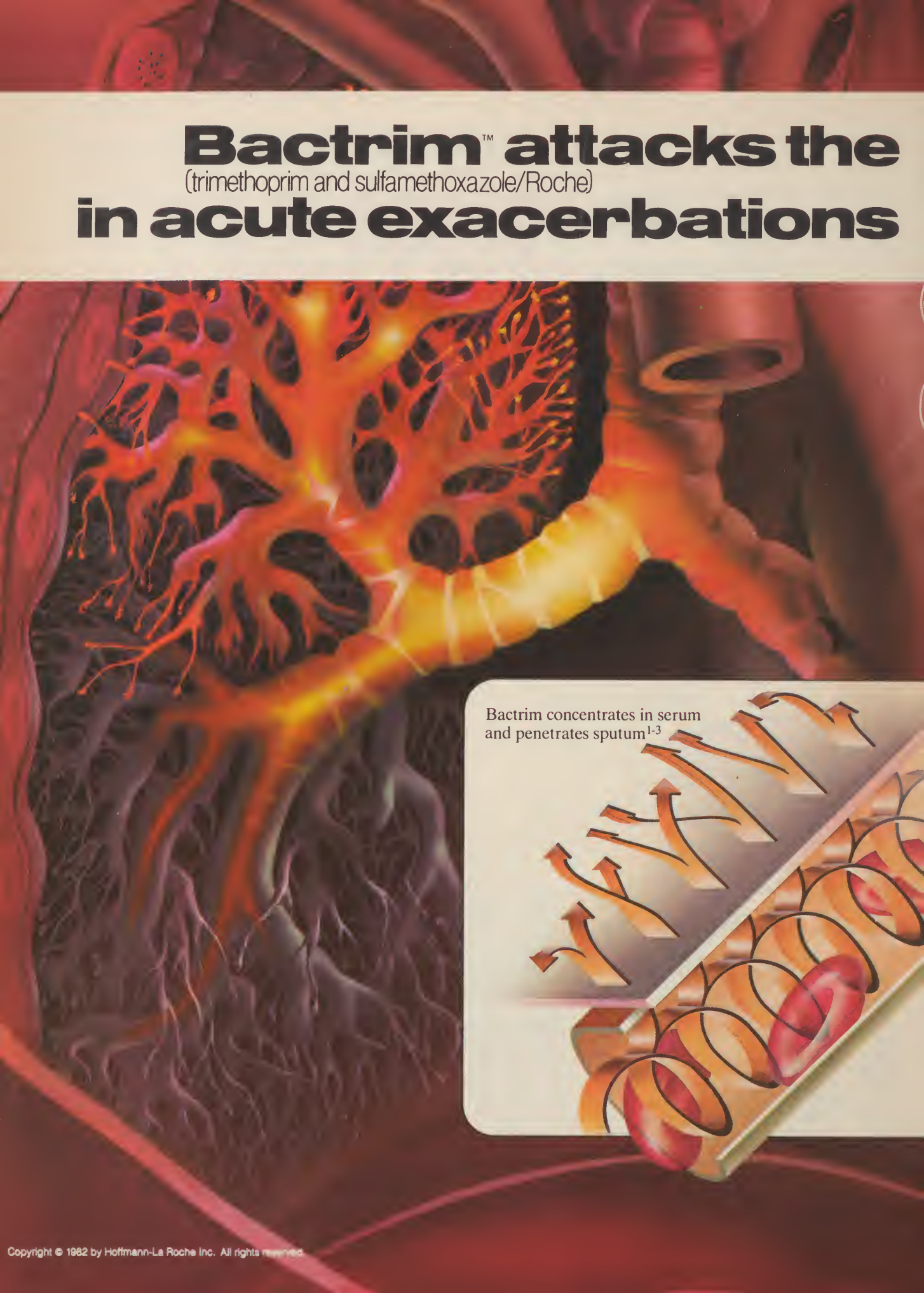
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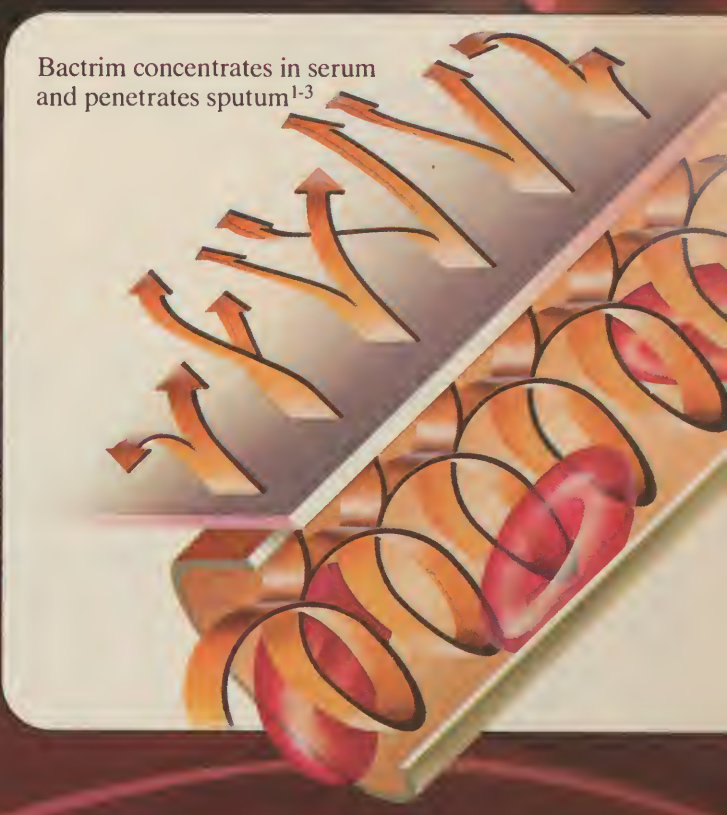
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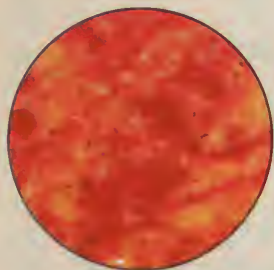
Bactrim DS. For acute exacerbations of chronic bronchitis in adults* when it offers an advantage over single-agent antibacterials.

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Indications and Usage: For the treatment of urinary tract infections due to susceptible strains of the following organisms: *Escherichia coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis*, *Proteus vulgaris*, *Proteus morganii*. It is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single effective antibacterial agent rather than the combination. **Note:** The increasing frequency of resistant organisms limits the usefulness of all antibacterials, especially in these urinary tract infections.

For acute otitis media in children due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over other antimicrobials. To date, there are limited data on the safety of repeated use of Bactrim in children under two years of age. Bactrim is not indicated for prophylactic or prolonged administration in otitis media at any age.

For acute exacerbations of chronic bronchitis in adults due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over a single antimicrobial agent.

For enteritis due to susceptible strains of *Shigella flexneri* and *Shigella sonnei* when antibacterial therapy is indicated.

Also for the treatment of documented *Pneumocystis carinii* pneumonia.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; patients with documented megaloblastic anemia due to folate deficiency; pregnancy at term; nursing mothers because sulfonamides are excreted in human milk and may cause kernicterus; infants less than 2 months of age.

Warnings: BACTRIM SHOULD NOT BE USED TO TREAT STREPTOCOCCAL PHARYNGITIS. Clinical studies show that patients with group A β -hemolytic streptococcal tonsillopharyngitis have higher incidence of bacteriologic failure when treated with Bactrim than do those treated with penicillin. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hemopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

Precautions: General: Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function. Bactrim may prolong prothrombin time in those receiving warfarin; reassess coagulation time when administering Bactrim to these patients.

Pregnancy: Teratogenic Effects: Pregnancy Category C. Because trimethoprim and sulfamethoxazole may interfere with folic acid metabolism, use during pregnancy only if potential benefits justify the potential risk to the fetus.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. **Blood dyscrasias:** Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. **Allergic reactions:** Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. **Gastrointestinal reactions:** Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea, pseudomembranous colitis and pancreatitis. **CNS reactions:** Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. **Miscellaneous reactions:** Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: Not recommended for infants less than two months of age.

URINARY TRACT INFECTIONS AND SHIGELLOSIS IN ADULTS AND CHILDREN, AND ACUTE OTITIS MEDIA IN CHILDREN:

Adults: Usual adult dosage for urinary tract infections—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days. Use identical daily dosage for 5 days for shigellosis.

Children: Recommended dosage for children with urinary tract infections or acute otitis media—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. Use identical daily dosage for 5 days for shigellosis.

For patients with renal impairment. Use recommended dosage regimen when creatinine clearance is above 30 ml/min. If creatinine clearance is between 15 and 30 ml/min, use one-half the usual regimen. Bactrim is not recommended if creatinine clearance is below 15 ml/min.

ACUTE EXACERBATIONS OF CHRONIC BRONCHITIS IN ADULTS:

Usual adult dosage: 1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 14 days.

PNEUMOCYSTIS CARINII PNEUMONITIS:

Recommended dosage. 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.

Supplied: Double Strength (DS) tablets, each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100; Tel-E-Dose® packages of 100; Prescription Paks of 20 and 28. Tablets, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 40. **Pediatric Suspension,** containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); cherry flavored—bottles of 100 ml and 16 oz (1 pint). **Suspension,** containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); fruit-licorice flavored—bottles of 16 oz (1 pint).

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History and Medicine: A Prologue

G. E. Erikson, PhD

On the evening of November 24, 1981 the Sopkin Auditorium of The Miriam Hospital was filled to overflowing with friends of Doctor Seebert J. Goldowsky gathered to pay tribute to him for long years of service to medicine, to the study of history, and to the community in general. The occasion was the first History and Medicine Oration sponsored by the Hospital. The organizing committee had the inspired idea of establishing this set of historical Orations as a variant on the general series that had been conducted since 1956 and initiate it with a group of historical papers dedicated to Doctor Goldowsky.

Doctor Charles E. Millard, President of the Rhode Island Medical Society, opened the evening with warm greetings and appreciative remarks from the Society, citing Doctor Goldowsky's long tenure of more than two decades as Editor-in-Chief of the *Journal*, his authorship of many editorials and clinical and historical papers, his long practice as a skillful surgeon on the staff of The Miriam and other hospitals, and his wide range of service in the community.

The opening paper was presented by Doctor Alfred W. Senft, Professor of Medical Science at Brown University, and a world's authority on schistosomiasis. He served the symposium, as he serves our medical students, by expanding our consciousness out of our own time and scene in transporting us to Darkest Africa for a rapid review of the explorations of Doctor David Livingstone and their medical involvements.

Doctor Stanley Aronson, University Professor at Brown University and former Dean of the

Program in Medicine, in a masterful essay illustrated the marvelous interrelatedness of the universe. Like Thomas Henry Huxley in his famous essay "On a Piece of Chalk," he showed that one can tie at any point into the incredible nexus of things — even with the seemingly unpromising subject of the role of lead in human economy since the dawn of time.

Doctor James H. Cassidy, Historian of the National Library of Medicine, brought us back home in his expertly detailed review of the present state of the field of scholarship bearing on Brown's own Doctor Charles V. Chapin and the field of public health he pioneered and championed. Doctor Cassidy accompanied his review with reminiscences of his Brown graduate student days when he was writing his dissertation that developed into his definitive biography, *Charles V. Chapin and the Public Health Movement*. We were impressed again with the accomplishments of Doctor Chapin, and with Doctor Cassidy's researches and his list of significant questions that still need to be answered.

At the end of the evening Doctor Irving Beck, a life-long friend and fellow alumnus of both Brown University and the Harvard Medical school, reviewed Doctor Goldowsky's career and shared with the audience his memories of their experiences in Boston and in Providence. From the response of the audience during Doctor Beck's talk and the rousing applause at the conclusion of the session, the affection and respect with which this community regards Doctor Goldowsky was manifest.

In publishing these three papers in this special issue of the *Journal* we hope there will be recaptured, for those who were there and for those who were not, something of the substance and spirit of that memorable evening.

G. E. Erikson, PhD, Professor of Medical Science, Chairman of the Section of Morphology, Brown University, Providence, Rhode Island.

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Parasitic Disease and Exploration: A Glimpse of Central Africa in the 1860s

Alfred W. Senft, MD, MPH, DTM and H

Come with me, if you will, on a journey backwards in time. A retreat of only 120 years to the mid-sixties will suffice for the story I'd like to tell.

The setting of my tale will be Africa, but not the whole of that vast Dark Continent, but, instead, the heart of Africa. Where is that heart? Surely, it could be in many places: amidst the sands of Cyrene, home of Carthage, and sites of ancient Greek temples; it could be among the proud Benins. One could look in Thebes, the oasis of Siwah, or among the lost volumes of the early Library of Alexandria. Perhaps the heart is submerged beneath the thundering roar of the falls of the Zambesi River, the cascades of which can be heard 10 miles away, and seen as the spray, which natives used to call "the smoke that thunders."

But my historical lodestone points to an area of Africa south of huge Lake Victoria, and west of Nyassa; a land north of now dried-up Lake N'gami and beyond the farthest migration of the Boers. That heart is near Leaky's Olduvai, where mankind is said to have originated.

Throughout recorded history great women and men have been unaccountably drawn to this magnetic locus. Nevermind the marsh and sponge, the lions, hippos, and crocodiles, the mosquitos and dreaded tsetse fly, the impossible heat and the drenching, endless rain.

Among the early explorers, one can picture the image of Mrs. Baker in long skirt and puffy sleeves, wide-brimmed hat looking for a place for

tea and cookies as she and husband were punted through water reeds of swampy el Sudd. What mattered was the "source" of the Nile, which, of course, should be discovered in a style befitting a Victorian genteel life.

In all of a tangle of weeds and water there was also a tangle of personalities: insufferable egoists, plundering, pitiless slavers, romantic intellectuals. Names like captains John Speke and James Grant will be familiar to many; also, perhaps, the Bakers, along with Henry Morton Stanley, known best for his "Dr. Livingstone, I presume. . . ."

Vignette of a Complex Personality

The choice of Doctor David Livingstone as a subject for a medical history vignette is quite natural. What one might like to emphasize about this complex personality is less certain. Clearly, the Reverend is revered as a missionary by descendants of the Free Church of Scotland, in the land of his forebears. He was sent to Africa by the London Missionary Society in 1841. In those days the driving forces for proselytizing included not only the desire to introduce the Protestant/Judaic interpretation of God's "plan for the universe." In equal fervor was the hope that such an interpretation might be nurtured with a particularly English flavor, which, one hopes, would take precedence over the hated bible-toting Boer vigilantes, or the enslaving predation of the Portuguese.

In presenting a miniature appraisal of David Livingstone, one would have to begin by noting that he was a simple man who lived a complex life. His career included many conflicting demands: the London Missionary Society, which originally sponsored him, felt that they ought to send him to the outer reaches of what is now South Africa. There he might combine the good qualities of a dedicated, bible-centered man of God. His training as a practical physician added to the attractiveness of such an outpost assignment.

Read at the First History and Medicine Oration in tribute to Seebert J. Goldowsky, MD, held at The Miriam Hospital on November 24, 1981.

Alfred W. Senft, MD, MPH, DTM and H, Professor of Medical Science, Division of Biology and Medicine, Brown University, Providence, Rhode Island.

Although Livingstone stayed throughout the required seven years apprenticeship, he early displayed further ideas than just preaching and healing. He thought constantly of exploration and geographic mapping. Although certainly imbued with the ethic of his personal ecclesiastical calling, he also loved to canoe along streams, be the first to tramp over a ridge of mountains, or to sit in the shade of a baobab tree, there to watch a fearsome warlike tribal dance, or convince a dubious chieftain that a white man could be gentle, wise, and sympathetic.

Livingstone is said to have wandered over 20,000 miles through central Africa, oftentimes afoot. These incessant travels were not totally appreciated by his mission superiors, which explains his offer to the Foreign Office to become an official traveling British Consul. This post assured some modest funds for exploratory trips up the Zambesi, the Shire, and Rovuma Rivers. His attempts to reach the central lakes of Africa, particularly Lake Nyassa, were based on the sadly incorrect assumption that one or another of these rivers took its origin from the lake, and consequently might be navigable by a side-wheel paddle steamer. There was the hope that a western religious approach might flourish in those fertile lands, and also that commerce and colonial settlements might result.

Other aspects of Livingstone's travels are combinations of patience, determination, moral indignation contra slavery, obstinacy, and finally quiet despair. These descriptive terms characterize the final great chapters of his life.

The Perils to Health

As a traveler in unexplored Africa for some 30 years, David Livingstone was constantly faced with a spectrum of tropical diseases not only in others he encountered, but also involving his personal health. There is only time in this brief description to mention a few. One clearly cannot avoid discussing malaria, since almost every chapter of his memoirs, and every contemporary biography, repeatedly mentions the African Fever attacks which he and his companions suffered. At times his notes reveal that he was unable to palaver with a native chieftain because he was in the midst of the ague, or had not yet gone through the chills and fever stage. At another point he sagely mentions that he must take some rest in England to allow his enlarged spleen to subside.

The multiple exposures and the many regions he traversed (from South Africa to West Africa;

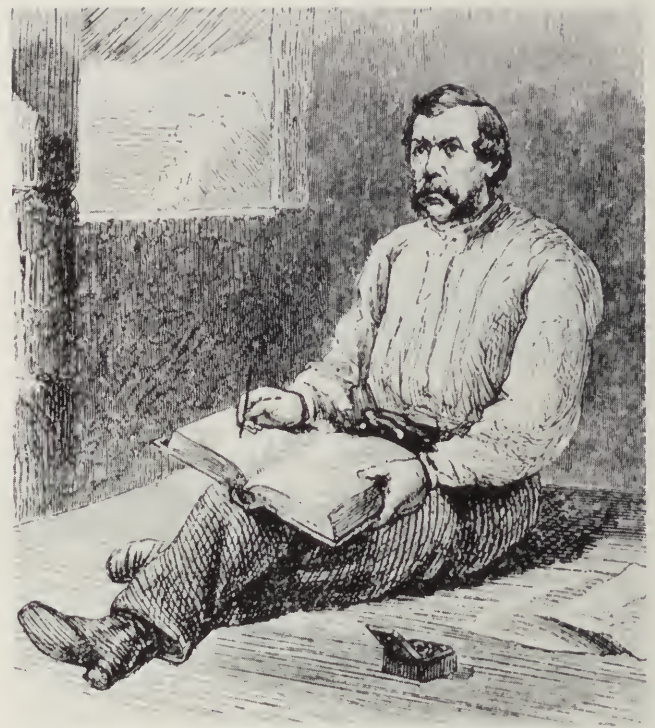


Figure 1. Doctor Livingstone at work on his Journal.

from the East Coast to Upper Congo) suggest that he was exposed to at least two plasmodial species: *P falciparum* and *P vivax*. The likelihood of *P malariae* and *P ovale* is less certain. Thus, since intra-species strains are thought to induce distinct diseases, he undoubtedly underwent multiple antigenic experiences. Since he suffered less from malaria with the passing of years, it is reasonable to guess that he eventually became hyperimmunized, and, like many of his native companions, survived, although at terrible cost of vitality.

In Livingstone's day the causative agent for malaria was not yet known. Grassi and Laveran had not appeared on the scene to demonstrate the schizonts and trophozoites within erythrocytes. And Ronald Ross, who elucidated the role of the mosquito, had not yet approached his Himalayan Laboratory in Kasauli, as a member of the British Indian Medical Service.

Thus, at that time, no one really knew the true nature of malaria. One only knew that swamps were deadly and that highlands were tolerable.

It is instructive to read the account of the enthusiastic second wave of missionaries which followed the trail of Livingstone's early years: William Sykes, Morgan Thomas, Holloway Helemore, and Roger Price; all with wives and some



Figure 2. Livingstone's escape from the lion.

with infant babies. These non-immunes set out to establish further outposts among the Makololo natives in Linyanti. It developed that the Makololos, along with Sekeletu, their chief, fearing the raid of neighboring highland tribesmen, forced their white "guests" to settle awhile in Makololo lowlands where exposure was all but certain. Results could be predicted in any beginning course in epidemiology: all the newcomers save Roger Price and two Helemore orphans perished quickly and miserably from fever, hunger, and thirst. What is enigmatic is that Livingstone had left a traveling wagon, complete with medicine chest, magic lantern, books, and tools in the care of Sekeletu. Contained in this kit was the precious quinine which might have saved the victims. Their bodies were placed in unmarked graves a hundred or so yards from the carefully-guarded wagon.

Livingstone seems to have carried quinine in all of his travels, and bitterly bemoaned loss of his medical kit whether by capsizing in a river, or by

the defection of a native carrier. Quinine may have been used too liberally. Speaking of a patient who objected to the use of this alkaloid, Livingstone writes: "He had imbibed a foolish prejudice against Quinine, our sheet-anchor in . . . the fever, which acts as a slow poison. . . . This is a rather professional subject, but I introduce it here in order to protest against the prejudice as almost unfounded. Quinine is invaluable in fever, and never produces any unpleasant effects in any stage of the disease, if taken in combination with an aperient. . . ." (*My Travels in South Africa*, pp 681).

Livingstone was over 100 miles distant, when Sekeletu's new missionaries were restrained in the lowlands. There was subsequently much official discussion about whether things would have gone better had the doctor been there. Certainly Livingstone's positive influence with the Chief might have encouraged Sekeletu to move the entire confederation of the Makololos to the Highlands before as a race they too were wiped out.



Figure 3. Ill slaves abandoned.

The Challenge

In the conclusion of an invited lecture given to students in Cambridge (1857), Livingstone changed the manner of his delivery. Whereas it was halting and strained throughout the body of the talk, he suddenly stopped, waited, and then almost shouted: *"I beg to direct your attention to Africa. I know that in a few years I shall be cut off in that country, which is now open; do not let it be shut again. Do you carry out the work which I have begun. I leave it with you!"*

This challenging slogan hit the students of privileged Oxford and Cambridge like a bombshell. A University-sponsored missionary group erupted under the leadership of Bishop MacKenzie determined to send several young neophytes to Africa. A settlement in the higher reaches of East Africa, later to be northern Rhodesia, was their objective.

Things went awry. The plan to ascend the Rovuma or Shire Rivers by special boat came

undone. There was bickering and defection. At Shupanga, Mary Livingstone died following a virulent feverish episode, despite administrations of the capable Doctor Kirk and Livingstone himself. Next, the hearty and useful Bishop, and Mr. Burrup, a young recruit from Oxford, succumbed to the fever. Sadly, the presence of the doctors, even with their precious zinc sulfate, malachite, silver nitrate, powder of rhubarb, calomel, quinine, morphia, and tartar emetic, could not always stay disaster.

Livingstone was disheveled, his plans collapsing as disaster followed disaster. His uncommunicated grief turned into a teeth-clenching determination to reach the Lake of the Stars: Nyassa. With his publishing royalties he bought a steam-powered boat, the third of such vessels designed and constructed in England. It was sent to Africa where it was hand-assembled. He steamed up Rovuma's "passage" toward Nyassa, but with no luck, since the Rovuma has no origin in that lake.

He again tried the Shire, and again was baffled by cataracts and rapids. He agonized and railed, particularly about the slave trade, but, there being yet no clear governmental position as to how he should respond to Portugal's human commerce, found himself recalled from Consular duties.

In a feat of seamanship worthy of today's yachtsmen, he sailed his tiny ship, the *Lady Nyassa*, 2500 miles to Bombay. It seems doubly impressive in one who has just lost wife, friends, position, and plans. The pitiful sum he obtained by selling his private boat was invested for his children in an Indian Bank. The bank failed and Livingstone was back to square one. Now older, maybe wiser, he was more determined than ever to speak out against slavery whilst continuing his quest for the origins of the Nile and Congo Rivers.

In addition to malaria, the nature of which was still a mystery, Livingstone had encountered Nagana, Sleeping Sickness, and the ungulate form of Trypanosomiasis. The latter affliction which to this day has precluded cattle agronomy in Africa, he knew full well, since most of his animals perished whenever they were driven through tsetse country. The importance which he attached to this disease is shown by the strikingly detailed drawing of *Glossina* shown on the frontispiece of his book, *Missionary Travels and Researches in South Africa*. Livingstone knew that the tsetse bites caused festering in oxen, cows, and horses, but less certain was he that the same fly bite in man was responsible for hundreds of thousands of deaths in the central lakeland of Africa. He tells of large numbers of deaths, of natives unable to bury or burn their dead, of bodies floating down the river bumping into the gunnels of the *Lady Nyassa* or the *Pioneer* whilst crocodiles feasted on the remains.

What Livingstone did not know was that Trypanosomiasis, like malaria, is a blood disease, with flagellated protozoans reproducing by the billions in the plasma. Eventually they penetrate the blood-brain barrier and the comatose marasmus which we call *sleeping sickness* inexorably sets in.

Livingstone knew little biochemistry, no more than an English medical education of the 1830s would support. His medical thesis on the use of the stethoscope was a typical scholarly penetration into investigative medicine of his time. Thus, this physician could not know that trypanosomes are especially dependent on anaerobic glucose metabolism while in the bloodstream of a mammal, and then on the tricarboxylic acid cycle with-

in the vector fly. Nor would he have understood that these protozoan forms are thought to induce abnormal tryptophan metabolism within the host, which liberates tryptophol, a sleep-inducing agent. In regard to treatment, suramin and pentamidine compounds were not to appear for over half a century. Even arsenicals were not then known, and his meager supply of antimonials would have been insufficient.

Thus, viewing the horrors of epidemic African Trypanosomiasis, he could but commiserate and pray that his God would soon lift this heavy burden of disease.

The final return of David Livingstone to Africa is a further bit of an enigma. He continued to map rivers; he continued to work against the slave trade; he continued a star-crossed quest for the source of the Nile, even after published reports by Speke, Baker, and Burton concerning Lake Victoria.

The Last Days

He became frail, chronically ill, and, he must have been depressed. He wrote of staying in Africa to be buried alongside of Mary Moffat Livingstone, but then he expressed the wish for "A few months more . . ." until a return to England and a pension would be possible.

His son, Orwell, joined one of several "Find Livingstone!" expeditions, but turned back when appraised of the knowledge that Stanley has done just that. One source of Livingstone's depression may have been the circumstances of Orwell's search. It was alleged that the son wanted a first class education and felt that his father's royalties which might be expected on his resettlement in London might support this wish. The father was scathing in his reply.

Stanley's association with Livingstone, during four months at Ujiji on Lake Tananyika transformed and shaped the life of this *New York Herald* reporter. He cherished his father-son relationship with the doctor, so much so that he emulated him and became an explorer. It was Stanley's journey down the Lululaba and the Congo which opened up West Central Africa, later known, in part, as the Belgian Congo. The exploration down the Congo may have influenced the subsequent land and power grabs of western European states.

Meanwhile, Livingstone was not destined to find an ultimate source of the Nile. The irony of his life is that near the end he became dependent on and actually traveled with the slavers, who in return respected and cared for him. He was

chronically ill, lost his teeth, and wasted into what he called a "ruckle of bones." What might be a modern diagnosis of his last illness?

Perhaps the reading of the account of Livingstone's last days* might provide some clues:

On that day, 29 April 1873, in Chitambo's old village in the district of Ilala on the south shore of Lake Bangweolo, the Pathfinder came to his last halt. They laid him under the broad eaves of a native hut while the large new one, of branches, reeds and grass, and banked with earth, was being prepared in a drizzle of rain. By nightfall it was ready, the bales and boxes placed inside, the bed raised from the floor with sticks and grass, and the old traveller gently lifted in. Early next morning Chitambo came to pay his respects, but Livingstone was obliged to ask him to come next day when he hoped to have recovered strength to talk. In the afternoon he asked Susi to bring his watch and showed him how to hold it while he slowly wound the key. That night some of his men silently went to their huts, whilst others stayed watching by their camp-fire. Inside the hut sat the boy Majwara, to call Susi or Chuma if their master woke or wanted anything. About 11 pm there was sound of distant shouting and Susi was called. Livingstone said, "Are our men making that noise?" "No," replied Susi, "I can hear from the cries that the people are scaring away a buffalo from their dura fields." Silence. Then he said slowly, "Is this the Luapula?" "No, master, we are in Chitambo's village near the Lulilama." Again silence for a while. Then, speaking in Swahili, he said, "Sikun'gapi kuenda Luapula?" (How many days to the Luapula?) Susi replied, "Na zani zikutatu, bwana" (I think three days, master.) A few seconds after, as if in great pain, Livingstone sighed, "Oh dear, dear!" and then dozed off into sleep.

About an hour later Susi was called again. Livingstone told him to boil some water, and when this was brought, to hold his medicine-chest and a candle near him. With great difficulty he then selected some calomel, and directing Susi to pour a little water into a cup and leave another empty one beside it, he said in a low feeble voice, "All right; you can go out now." About 4 am Majwara called Susi again. "Come, I am afraid." The lad's evident alarm made Susi rouse Chuma and three other men. They entered the doorway and looked towards the bed. Livingstone was not lying in it but appeared to be kneeling beside it. They instinctively drew backwards. Majwara said that he himself had been to sleep some time ago (how long he could not say), and woke to find the bwana in the same position as before he had closed his eyes. Approaching nearer they could see by the dim light of the candle stuck to the top of a box the moveless figure of their master kneeling by the

bedside, his body stretched forward, his head buried in his hands upon the pillow.

They watched for a little, but the figure did not stir.

Dare one now attempt a retrospective diagnosis? The chronic diarrhea and intestinal pains, along with copious rectal bleeding suggest an ulcerative infectious disorder. One could view this as typhoid, but must also consider amebiasis. The terrible lumbar pain seems like an abscessed perforation, and, indeed, a postmortem of sorts in Zanzibar speaks of a fist-sized clot. But one is unsure, since the viscera were removed in Ilala.

Other possibilities can be raised. Livingstone did not know of schistosomiasis unless he had closely followed Bilharz's report from Cairo in 1852. In any event it is unlikely that he would have guessed the facts that schistosomes could be vectored by the planorbid *Biomphalarid* or *Bulinid* snails of that region.

Livingstone's frequent immersions in water of countless rivers, lakes, and ponds suggest ample opportunity for exposure to *Schistosoma mansoni*, *S. hematobium*, or even *S. intercalatum*, usually found in cows, but occasionally in man.

What he might have liked to have known is how easily the diagnosis could have been made in the field. A portable microscope, a sedimented urine sample, or a saline emulsion of 50 mg of feces could have been checked in 1873 as easily as today. But Livingstone was not a laboratory-oriented physician. His way to perceive nature was with his eyes and ears, and in this he was the compleat explorer. Had the diagnosis of Bilharziasis even been made, it would have been only academic, since the use of his antimony tartrate as an intravenous medication was not even thinkable until the trials in 1917 of Christopherson in North Africa.

Livingstone really did impress upon the world the nature of the African life in the heartland. And thus his own heart, removed at postmortem by his native followers, appropriately rests in an iron box buried somewhere near a large mvula tree in Ilala.

* Seaver G: David Livingstone: His Life and Letters. New York, Harper & Bros, 1957, pp 627-9.

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Lead and the Demon Rum in Colonial America

Stanley M. Aronson, MD, MPH

Lead represents a major source of human poisoning, frequently causing substantial and often irreversible damage to nervous system, hematopoietic, gonadal, and renal tissue. Sufficient archeologic data have been accumulated to suggest that lead constituted a selective health danger as long as 4,000 years ago, and there is abundant evidence that lead intoxication was a continuing medical hazard in the succeeding four millenia. The causes for human exposure to excessive environmental lead have diversified significantly during these forty centuries. Initially, the risk of intoxication was confined to those immediately involved in the smelting process;¹ but later, in the classical Greco-Roman era, as the versatility of lead products and compounds was realized, consumers as well as workers became vulnerable. During the colonial interval in North America there was extensive lead contamination of distilled spirits, drinking waters, and, occasionally, household foods and utensils. Presently the danger of low-level lead poisoning is recognized in other industrial work forces and in populations of inner city children forced by circumstance to live in lead-contaminated housing. During these past four millenia, the concentrations of contaminating lead salts have dramatically increased in the atmosphere, in the waters, and in the biomass of the earth.

Read at the First History and Medicine Oration in tribute to Seebert J. Goldowsky, MD, held at The Miriam Hospital on November 24, 1981.

Stanley M. Aronson, MD, MPH, University Professor of Medical Science, Division of Biology and Medicine, Brown University, Providence, Rhode Island.

Sources and Uses

Lead is one of the seven metals of antiquity, and its discovery and limited uses are traced to at least 3500 BCE. It was then regarded as the least noble of the seven metals and was accordingly assigned by early Mediterranean cultures as the earthly representation of Saturn, the most remote and the slowest moving of the visible planets. Lead but rarely occurs naturally in an elemental state. Its most readily accessible ores are galena (PbS) and cerussite (PbCO₃). Galena, with a worldwide distribution, is almost invariably intermixed with silver sulphide. Cerussite, which is found in immense quantities particularly in the southwestern region of the United States, is seldom mixed with other metallic ores.

The smelting of lead ores requires no complicated technology. Lead oxide (litharge) is produced from the sulphide ore at temperatures below 800°C. PbO then reacts with PbS to produce Pb and SO₂. The melting point of lead is 347°C, well below the levels of heat generated by charcoal fires. The Mesopotamian and Egyptian uses of lead were confined largely to the manufacture of beads, votive statues, straps, weights, and coinage. The metal was not deemed suitable for weapons and the employment of lead for conduits, utensils, and cisterns had not yet been appreciated.

Lead first assumed great commercial importance only because of its intimate association with silver (about 400 parts of lead are generally produced as smelting by-products for each recovered part of silver). Various Black Sea and Aegean cultures had discovered the process of cupellation which yields a pure residue of metallic silver from lead-silver ore. The infamous Laurium mines (present day Ergastiri) of classical Greece, which generated much of the material wealth of Athens, also produced the first known medical records of lead intoxication.

The first extensive use of lead awaited the development of Roman civil engineering, particularly in the building of the impressive aqueductal conduits which were lined with vast amounts of metallic lead. By 50 CE, the Romans were yearly mining and extracting in excess of 100,000 tons of metallic lead in such diverse places as Cornwall, Saxony, Spain, and Carthage.

These conduits with lead sheathing probably did not constitute a major drinking water health hazard as long as the pH of the effluent did not drop below 5.0 and the ratio of fluid volume to lead-lined surface was maintained at a high level. It is much more likely that the widespread lead poisonings (saturnism) of the late Empire citizenry stemmed rather from beverage and food adulteration attributed largely to the intentional coating of containers and copper cooking pots with lead alloys for the express purpose of preserving foods and diminishing the occasional sourness of wines.² In the presence of acetic acid derived from a spoiling wine, metallic lead is converted to a soluble lead acetate which acts as a sweetening agent (*saccharum saturni*) and which tends also to inhibit further degradative enzyme activity. While Pliny advocated the use of lead-lined vessels for the boiling of *sapa* (concentrated grape syrup),³ he nevertheless observed that “. . . from the excessive use of such wines arise dangling paralytic hands.”⁴ Vitruvius, the great civil engineer of Rome, pointed out that water derived from lead mines produced gout and cramps in those who consumed it. He noted further that “. . . workers in lead have complexions affected by pallor . . . the lead fumes occupy the members of the body and rob the limbs of the virtues of the blood. Therefore it seems that water should not be brought in lead pipes. . . .”⁵

Poisoning through Alcoholic Spirits

The association of lead poisoning with alcoholic spirits seems to be an uninterrupted characteristic of successive Western civilizations. Roman and Grecian wines were almost uniformly contaminated with lead salts, a fact verified repeatedly by contemporary chemical analysis of retrieved wine containers. Some of these studies revealed incredible levels of as much as 781 milligrams of lead per liter of wine.⁶ Gillfillan (who had proposed that saturnine poisoning was a dominant force in the downfall of Rome) demonstrated considerable amounts of lead in skeletal remains derived from various Roman and Carthagian sites.²

It was common experience during the middle

ages in Western Europe to sweeten wines of marginal value with lead acetate. This form of adulteration was particularly practiced in the production of certain Mosel, Rhenish, and southwestern French wines. It must be assumed that this custom was a known menace to health, since the otherwise unenlightened south German legislative code of 1498 invoked the death penalty for this practice. Further south, in the Poitou region of France, there was a recurring malady of occasionally epidemic proportions, referred to historically as the colic of Poitou (*Colica Pictonum*).⁷ The wine-drinking victims of this disorder exhibited weight loss, abdominal pain with obstipation, weakness of the limbs, seizures, and confusion. This was not a uniquely Gallic disorder since endemic colics with palsy were also periodically noted in Spain (where it was called *Entrabado*), in Germany (referred to as *Hüttenkatze*), England (called *Belain* or *Devonshire Colic*), and the Atlantic colonies of North America (locally called the *Dry Gripes*).

Lead-adulterated alcoholic beverages represented the first major recorded source of lead poisoning in the North American colonies. The coexistence of abdominal colic (dry gripes), peripheral neuropathy (the dangles), and consumption of rum manufactured in New England — but largely consumed in the southern colonies and the West Indies — was well-established. Indeed, the Massachusetts Bay colony Legislature on September 3, 1723 was prompted to pass “An Act for Preventing Abuses in the Distilling of Rum and Other Strong Liquors, with Leadened Heads or Pipes.” Section I of the Act states:

That no person whatsoever shall make use of any such leadened heads or worms (ie, distilling columns) . . . to distill or draw off any spirits or strong liquors thro’ such leadened heads or worms.⁸

Thomas Cadwalader, a Philadelphia physician and a close friend of Benjamin Franklin, authored a monograph (*Essay on the West-India Dry Gripes*) describing in vivid detail the enteric and neuropathic sequels to the consumption of contaminated rum.⁹ The monograph was published by Franklin in the year 1745 and was yet another instance of Franklin’s compelling absorption with saturnine disease. As a youth, Franklin had apprenticed in England, where he became acquainted with the peripheral neuropathies (printer’s dangles) found in those assistants whose task it was to wash cases of lead type with hot water.

In 1757 while again living in London, Franklin was elected a Fellow of the Royal Society. His

diaries of this decade talk frequently of observed cases of lead poisoning and its associations with the professions of plumbing, glass manufacturing, house painting, and "labourers in the grinding of colours." In 1762 Franklin befriended George Baker, a young Devonshire physician who had recently joined the Society. Baker's subsequent writings indicate that he had held lengthy conversations on lead colic in the New World with a "Dr. Franklyn of Philadelphia."¹⁰

An endemic disorder which afflicted the Devonshire region of England for over a century, produced violent abdominal pain, noteworthy pallor, weight loss, sweats, weakness, and at times death in those affected. The disease appeared to be confined to heavy drinkers of the locally manufactured cider. The cause of the malignant colic, moreover, was popularly ascribed to improperly fermented or unduly fresh cider. George Baker undertook a disciplined, meticulous inquiry into the cause of this curious disease reaffirming as had others, that it was confined to those who drank the regional cider. Baker's description of the afflicted ones is as follows:

... they were found throughout the town, people who were just like ghosts or statues. Walking artificially, pallid, squallid, lean with their hands crooked and hanging under their own weight, not being raised to the mouth and other higher parts except by effort (practice, skill); their feet not their own, but the muscles of their shanks making their gait laughable if it were not so pitiable, their voice harsh and halting. . . .¹¹

While inspecting the local cider presses of Alphington, Baker noted that the dependent grinding stones were bound together by keys of lead. With the aid of a young chemist, William Saunders, Baker was able to detect substantial concentrations of soluble lead salts in the fresh products of the Devonshire cider presses, and he speculated therefore that the cause of Devonshire colic was lead poisoning.* Analytic chemistry was not a commonly practiced science in the eighteenth century, and one must therefore presume that Baker recognized fundamental congruencies between the colics of his local Devonshire and the Western Hemispheric colics repeatedly detailed to him by Doctor Franklin before undertaking the assays. In recalling his many dialogues with Franklin, Baker proposed:

* The testing procedure used for lead analysis employed two ounces of orpiment (As_2S_3) mixed with one ounce of quicklime (CaO) and twelve ounces of distilled water. The addition of lead in solution produces a black precipitate which is a mixture of PbS , $\text{Pb}_3(\text{AsS}_3)_2$, $\text{Pb}_3(\text{AsS}_4)_2$ and possibly $\text{Pb}_2(\text{As}_2\text{S}_3)$. The procedure is sensitive to a concentration of two mg Pb^{++} /liter.¹²

... we might see reason to conclude, that the disease, called popularly the dry-belly ach, which is common as well in the northern colonies of America as in the islands of the West-Indies are referred wholly to lead as its cause.

Baker's essay on colic was published in London in 1767 and represented a major landmark in epidemiologic inquiry.¹¹ He concludes:

It therefore seems not to have been without sufficient foundation, that I have for some time suspected that the cause of the colic is not to be sought for in the pure Cyder, but in some, either fraudulent, or accidental adulteration. And lead being certainly of such a nature, as to be abundantly answerable for all the ill effects complained of from the Cyder, my thoughts naturally carried to the search of it; and well might I expect to find it, in some way or other combined with that liquor.

Eighteenth century wines apparently also contained excessive quantities of soluble lead. The British historian, Ball, sacrificed four sealed bottles of English Port wine (bottled from 1770 to 1820) for atomic-emission spectrophotometric analysis, and he recorded levels of up to 1,900 micrograms of lead per liter of wine.¹³ Commercial port wine currently averages 165 micrograms of lead per liter.

The production of illicit alcoholic spirits to this day is frequently associated with lead contamination. The dissolved lead is traceable to the common practice of using lead-soldered distilling coils, adapted from automobile radiators, in the production of whiskey. In a representative year, about 17,000 illegal stills are seized by federal revenue agents in the United States, and about 53 per cent of illicit whiskey (moonshine) specimens yield concentrations of lead exceeding 1,000 micrograms per liter. It has been stated that ingestion of illegally procured alcohols is the most common cause of acute and chronic lead intoxication in adult males living in the southeastern United States.¹⁴ A less common source of contemporary lead contamination is the wines which have been fermented in lead-glazed earthenware jars.

The following additional sources of lead intoxication were documented during the colonial era: red-lead adulteration of pepper; the use of lead salts for the whitening of bread; litharge in snuff; hair dyes with lead coloring compounds; food stuffs (especially India tea) wrapped in lead foil; foods stored in pewter containers (especially low pH juices such as those derived from lemons and tomatoes); the manufacture of printing type; fabric printing using lead nitrate as a mordanting agent; the manufacture of lead shot, drains and household gutters; certain cosmetic agents such

as cerussa (lead carbonates and hydroxide); the manufacture and use of lead-containing house-paints; the manufacture of lead glass; and the use of lead salts as hemostatic agents. Dispensed opiates and certain traditional aphrodisiacs were also commonly contaminated with lead.

Workers in the earthenware and china industries were commonly afflicted with colic, palsy, anemia, blindness, and premature death. This disorder, known as potter's disease (a well-known nineteenth century synonym for lead poisoning) was a major industrial problem, more in England than in the colonies, and a problem not solved until the discovery of a commercially satisfactory lead-free ceramic glaze. To this day, unregulated handcrafted pottery is still a source of lead poisoning of stored foods particularly those which have been processed in low pH solutions.

* * *

Successful prevention, and to a lesser degree, recognition and successful treatment of lead intoxication requires of us an awareness of the geochemical characteristics of lead, the historic ways in which this metal has been employed, the diverse circumstances under which human beings have been exposed to it, and a sensitivity to the various clinical presentations of this hostile substance.

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Charles V. Chapin Re-Visited: An Appreciation

James H. Cassedy, PhD

I had not known Doctor Goldowsky personally before tonight, but I am nonetheless happy to have been invited to participate in this program in his honor.

The organizers have given me the very welcome task of recalling with him and with you something about another medical great from Rhode Island, an earlier one and in many peoples' minds, the greatest physician the state has produced, Charles V. Chapin. In this brief time I shall try to summarize some of Chapin's principal contributions and to report briefly upon his expanding reputation in the world of historiography. I also want to suggest something of the wealth of historical research still waiting to be undertaken on the Chapin era in Rhode Island, and to suggest ways in which his career has meaning for our own generation.

The Principal Contributions

From 1884 to 1931, Charles V. Chapin was Providence's Commissioner of Health, and from 1888 to 1932 he was the City Registrar as well. For varying periods he was also associated with Brown University, Rhode Island Hospital, Harvard School of Public Health, and a multitude of local, state, and national professional bodies. Of considerable interest tonight was his close relationship with the Providence newspapers, for which over many years he prepared a weekly

medical column, and with the local medical press, which he relied upon heavily to educate physicians for their potential roles in day by day public health work.

As members of the Rhode Island Medical Society, most of you will have formed some image or other of Chapin in your mind's eye. You will, at the least, have seen the excellent oil painting of him done late in his career and now hanging in the Society's Library, a library which he did much to support and build up. You will also remember that early in this century Chapin served as Vice-President, and then as President, of your Society. The membership of the Rhode Island Medical Society was quick to recognize Chapin's greatness, and over the years it has been unstinting in honoring him. In so doing, the Society has honored itself.

Chapin loved Providence and Rhode Island, and he felt most comfortable when he was at home here among his neighbors. His long and devoted labors as health officer were of incalculable importance to the well-being of this community. However, the work far transcended Providence, and at an early day it took on national and international importance.

Chapin was, first and foremost, leader of the American movement to bring the findings of bacteriology into public health work. As one of the first steps, he separated himself from the general theories and procedures of the previous age of environmental sanitation and forcefully discredited them with specific measures directed against specific diseases. He organized the first municipal bacteriological laboratory (1888). His field studies of the phenomenon of well carriers of disease were landmarks of a new rational approach against infectious disease. And his encyclopedic knowledge of the scientific literature of the first thirty or so years of bacteriological research formed the content of his classic volume of 1910, *The Sources and Modes of Infection*. This knowledge

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James H. Cassedy, PhD, historian, is the author of several books, which include "Charles V. Chapin and the Public Health Movement."



Charles V. Chapin, MD, 1820-1941

*From a portrait in oil, Collections
of the Rhode Island Medical Society*

also provided the base of authority behind his decision to build the Providence City Hospital, the first American infectious disease institution operated on the principle of aseptic nursing. During the course of his long career, Chapin made Providence vital statistics the best in the United States, so far as completeness and accuracy were concerned. Through field observation, moreover, he rejuvenated the specialty of epidemiology in this country and gave it a set of rigorous standards. In 1914, as a senior health officer, Chapin conducted the first state by state evaluation of public health work, and, during the decade following World War I, he devoted much of his energy to establishing a realistic scale of priorities for the different facets of that work.

Public health professionals have long been well aware of the unique importance of Chapin's contributions. Historians, it must be admitted, lagged behind. In fact, it has not been until the last twenty years or so, with the emerging to popularity of such specialties as social, urban, and medical history, that American historians have begun to absorb the significance of Chapin's life and work. Now, in the 1980s, the scholar finds his work increasingly quoted in public health histories, his life reviewed in historical encyclopedias and biographical dictionaries. And, within the last few years, his 1915 Report on *State Public Health Work* has been reprinted to make it available to scholars.

The Chapin Era

The student quickly becomes aware that Providence during Chapin's life-time boasted a number of nationally significant health-related institutions and innovations and was home for a surprising number of other prominent and talented medical and public health leaders — all of them somehow associated with Chapin at one time or another. In short, there is a wealth of topics in the recent history of Rhode Island medicine which richly deserve scholarly attention from the physicians and historians of this community. As starters I suggest the following:

- 1) A history and critique of the pioneering Providence City Hospital.
- 2) A history of the Rhode Island Hospital, founded in 1868.
- 3) An historical study of the Rhode Island State Board of Health, its leaders and accomplishments.
- 4) An account of the rise and flourishing of Homeopathy, Botanical Medicine, Hydropathy, and other 19th century medical sects in Rhode

Island.

5) An epidemiological history of Rhode Island, reconstructed from official reports, statistics, and other documents.

6) A demographic and public health history of Rhode Island's industrial development.

7) An historical account of the Rhode Island Medical Society's Fiske Fund, its origins, its winners, and their topics.

8) Biographical studies of such eminent individuals as Mary S. Gardner, Providence pioneer in public health nursing; Frederic P. Gorham, Brown University professor and pioneer in bacteriology; Dennett L. Richardson, Chapin's successor as Superintendent of Health; Gardner T. Swarts, bacteriologist, and long-time Secretary of the Rhode Island State Board of Health; and others.

9) Biographical articles on Chapin's talented parents: Louise Value Chapin, artist, and Joshua B. Chapin, physician, photographer, educator.

I first became aware of this galaxy of outstanding individuals and of Providence's rich medical environment when I was a graduate student at Brown University in the 1950s. One of my professors pointed out the major significance of Charles V. Chapin in modern American history and stimulated me to write a PhD dissertation on Chapin's work. Subsequently, interested librarians at the Rhode Island Medical Society Library, the John Hay Library, and the Rhode Island Historical Society facilitated my research on the project, while scores of Chapin's former colleagues and neighbors infused the labor with their enthusiasm. Not least of all, perhaps, was the psychic benefit to me of writing the dissertation in an apartment on Barnes Street from which I could literally look out on the very house where Chapin and his family had lived.

A Biographer's Delight

Chapin unquestionably was a biographer's delight, first of all, of course, because his work was of such great importance to medicine and to mankind. But he was also a delight from a historiographical viewpoint: because he had such a rich sense of the history of medical science and often put his own work in a context of historical change; because he knew the value of documents and manuscripts and scrupulously saved those items related to his life and work; because he, and his wife, were so methodical in organizing that material and in placing it where it would be saved and used by future scholars. In addition, this biographer had to admire him because he wrote

so well and because he was so appealing as a person.

This is not to say that Chapin was uniformly attractive to everyone. Some people made fun of his fussiness, and some were offended by his habitual outspokenness. And yet, the effect left to posterity is overwhelmingly attractive. He was enormously curious, practical, and inventive. He had a lively sense of humor and filled both his conversation and his writing with quotable expressions. He had a deep sense of his own family roots and of its secure place in the old New England stock. While he shared much of the pride and prejudice of that class, he was not blinded by that background but was a person of deep humil-

ity and compassion for others. A Republican from birth, in action and philosophy Chapin came close to being a Socialist or, rather, what his generation called a Progressive. He had simple tastes and a Spartan lifestyle, and found his greatest satisfactions in community service and in medical research. The qualities he brought to the performance of these activities made Chapin stand out above his own generation. And they equally make his worthy of our continuing notice today.

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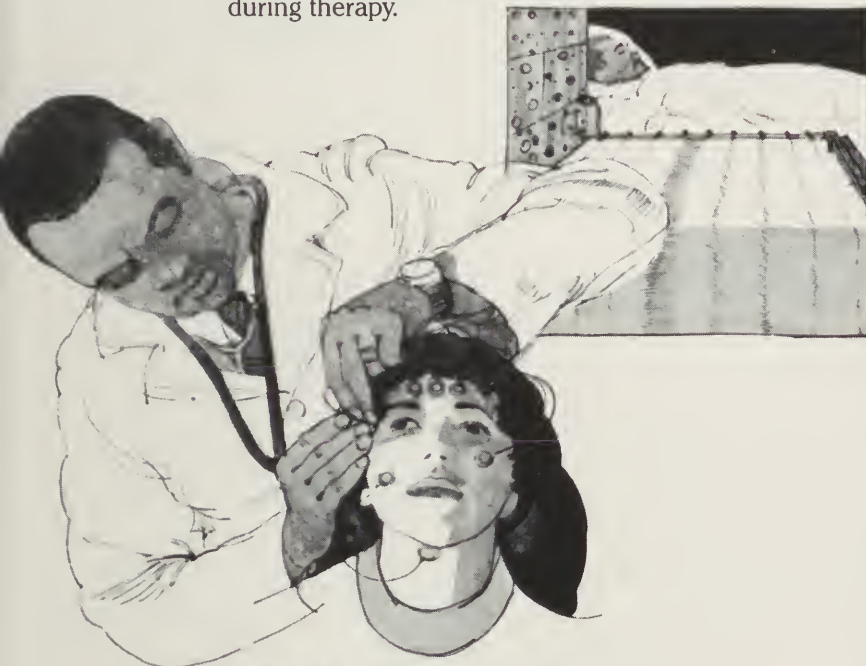
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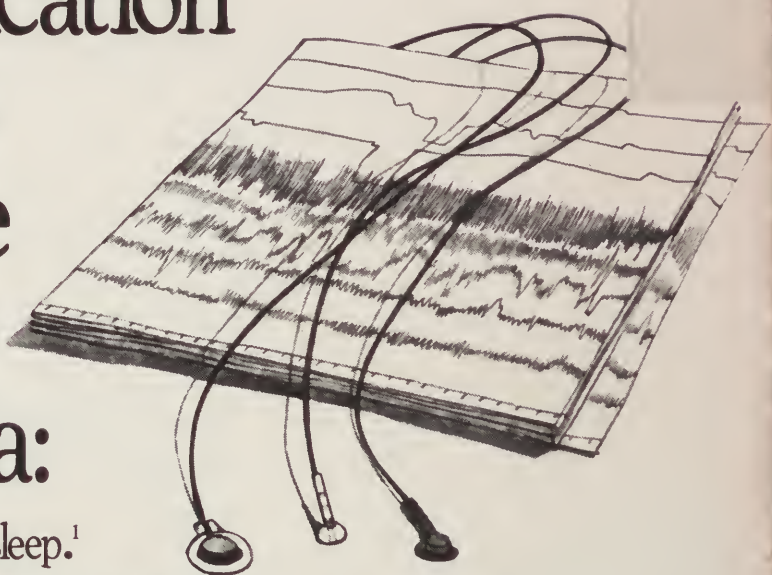
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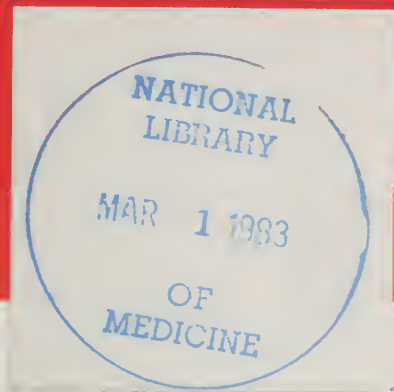
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CONTRAINDICATIONS: Advanced arteriosclerosis, symptomatic cardiovascular disease, moderate to severe hypertension, hyperthyroidism, known hypersensitivity, or idiosyncrasy to the sympathomimetic amines, glaucoma. Agitated states. Patients with a history of drug abuse. During or within 14 days following the administration of monoamine oxidase inhibitors (hypertensive crises may result).

WARNINGS: Tolerance to the anorectic effect usually develops within a few weeks. When this occurs, the recommended dose should be discontinued. Phendimetrazine tartrate may impair the ability of the patient to engage in potentially hazardous activities such as operating machinery or driving a motor vehicle; the patient should therefore be cautioned accordingly.

Drug Dependence: Phendimetrazine tartrate is related chemically and pharmacologically to the amphetamines. Amphetamines and related stimulant drugs have been extensively abused, and the possibility of abuse of phendimetrazine tartrate should be kept in mind when evaluating the desirability of including a drug as part of a weight-reduction program. Abuse of amphetamines and related drugs may be associated with intense psychological dependence and severe social dysfunction. There are reports of patients who have increased the dosage to many times that recommended. Abrupt cessation following prolonged high-dosage administration results in extreme fatigue and mental depression; changes are also noted on the sleep EEG, manifestations of chronic intoxication with anorectic drugs include severe dermatoses, marked insomnia, irritability, hyperactivity, and personality changes. The most severe manifestation of chronic intoxication is psychosis, often clinically indistinguishable from schizophrenia.

USAGE IN PREGNANCY: The safety of phendimetrazine tartrate in pregnancy and lactation has not been established. Therefore, phendimetrazine tartrate should not be taken by women who are or may become pregnant.

USAGE IN CHILDREN: Phendimetrazine tartrate is not recommended for use in children under 12 years of age.

PRECAUTION: Caution is to be exercised in prescribing phendimetrazine tartrate for patients with even mild hypertension. Insulin requirements in diabetes mellitus may be altered in association with the use of phendimetrazine tartrate and the concomitant dietary regimen. Phendimetrazine tartrate may decrease the hypotensive effect of guanethidine. The least amount feasible should be prescribed or dispensed at one time in order to minimize the possibility of overdosage.

ADVERSE REACTIONS: Cardiovascular: Palpitation, tachycardia, elevation of blood pressure.

Central Nervous System: Overstimulation, restlessness, dizziness, insomnia, euphoria, dysphoria, tremor, headache; rarely psychotic episodes at recommended doses.

Gastrointestinal: Dryness of the mouth, unpleasant taste, diarrhea, constipation, other gastrointestinal disturbances.

Allergic: Urticaria.

Endocrine: Impotence, changes in libido.

OVERDOSAGE: Manifestations of acute overdosage with phendimetrazine tartrate include restlessness, tremor, hyperreflexia, rapid respiration, confusion, assaultiveness, hallucinations, panic states.

Fatigue and depression usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Fatal poisoning usually terminates in convulsions and coma. Management of acute phendimetrazine tartrate intoxication is largely symptomatic and includes lavage and sedation with a barbiturate. Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendation in this regard. Acidification of the urine increases phendimetrazine tartrate excretion. Intravenous phentolamine (Regitine) has been suggested for possible acute, severe hypertension, if this complicates phendimetrazine tartrate overdosage.

DOSAGE AND ADMINISTRATION: Since Melfiat® 105 (phenidimetrazine tartrate) 105 mg is a slow release dosage form, limit to one slow release capsule in the morning. Melfiat® 105 (phenidimetrazine tartrate) is not recommended for use in children under 12 years of age.

HOW SUPPLIED: Each orange and clear slow release capsule contains 105 mg phendimetrazine tartrate in bottles of 100. NDC 0063-1082-06.

CAUTION: Federal law prohibits dispensing without prescription.



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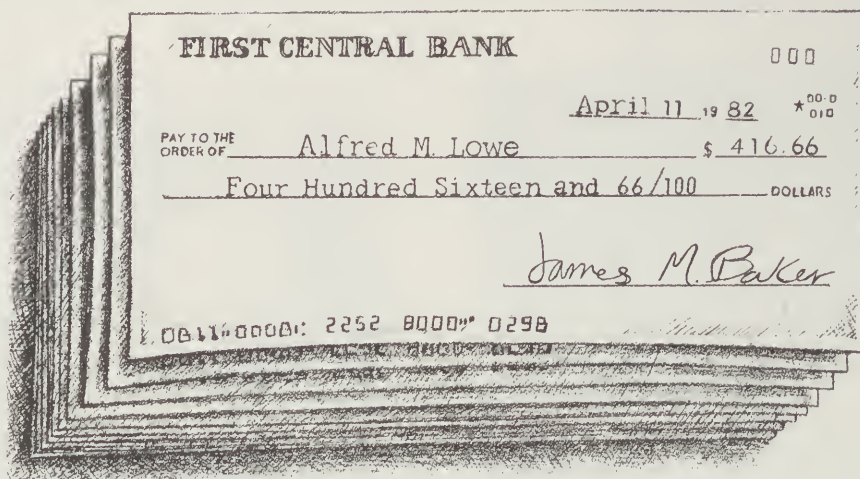
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Rhode Island Medical Journal

February 1983
Volume 66, Number 2

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Modern reproduction of a handsome Pennsylvania wood stove. For the dangers of wood burning see page 56.



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Competition and Salaried Physicians: Some Perspectives on a Growing Situation



It has been evident for some years that this country is producing physicians at a rate greater than the perceived need. The effect of the expanding physician population is that health care costs have risen from 7.5 per cent of the gross national product in 1970 to 9.8 per cent in 1981, to a predicted 10.1 per cent in 1982. Some have suggested that health care costs will exceed 12 per cent of the gross national product by the end of this decade, without an end in sight.

The number of physicians nationwide has risen 36 per cent since 1970, while the population has increased by only 8 per cent. Doctor Peter Pineo Chase in his 1950 Presidential Address to the Rhode Island Medical Society noted that there were 990 physicians in the state who were meeting the health needs of a population of 742,000 persons (ratio 1-741). In 1981 there were nearly 2,000 physicians serving 945,000 (ratio 1-462). Thus, in 30 years the physicians in Rhode Island have doubled in the face of only a 21 per cent increase in population.

In addition, the past decade has seen that virtually all communities with a population of over 30,000 have a near saturation of most primary and subspecialty physicians. In communities with populations of 10,000 to 20,000 there have been dramatic increases of internists, psychiatrists, and pediatricians; in such communities, the number of generalists and family physicians almost completely meet their primary care needs. It is estimated that the 70,000 young men and women now in medical school will exceed the number of approved residencies in the next 2 to 3 years. In some European countries 5 per cent or more of the physicians are unemployed!

One of the several facets of a competitive trend in medicine has been the changing relationship between physicians and hospitals. These changes include: 1) Competition in providing ambulatory care; 2) Increasing financial arrangements between physicians and hospitals; 3) Salaried full-time medical directors of hospitals representing themselves (and the hospitals) as spokesmen of the medical staff; 4) The approaching recognition of the medical staff as a unique entity requiring a place within organized medicine. For the



Melvin D. Hoffman, MD

past several years the Rhode Island Medical Society has provided a seat in both the Council and the House of Delegates for the President of the Staff Physicians Association of Rhode Island.

Competition in Providing Ambulatory Care

The Socio-Economic Monitoring System (SMS) of the American Medical Association has reported that nearly 20 per cent of the physicians see the hospital as a competitor in providing ambulatory care. Recent years have seen the hiring of physicians by hospitals for the principal purpose of providing patient services, whereas in the past most of these physicians were teachers hired because of unique skills to fulfill teaching and research needs. These salaried practicing physicians have absorbed the traditional welfare and Medicaid patient population, which in general is not underserved in the community.

This is costly and, unless tax monies are increased or other financing is found, these hospital groups will have to examine very carefully more creative ways of delivering their services to keep costs and remuneration in line. Many of these hospital-based, salaried practice groups have little or no control of their costs. To my knowledge the costs for office space in many of

these institutions exceeds that of private practitioners.

Financial Arrangements between Physicians and Hospitals

Physicians practicing in hospital-owned space face real and potential disadvantages:

- 1) Such arrangements may interfere with the practice of medicine, resulting in factions and cliques. (For example, salaried doctors refer only to other salaried physicians, while office space practitioners refer only to other office space physicians.)
- 2) In order to provide a proper incentive, rules may be adopted favoring salaried physicians' opportunities to use limited hospital resources.
- 3) Proximity and subtle pressure may focus on the salaried physicians to purchase laboratory, x-ray, and other special services from the hospital, rather than utilize equally competent (and sometimes less costly) services in the community.⁵
- 4) Medical directors or chiefs in an institution may bring pressures to bear on salaried physicians which interfere with their normal decision-making.
- 5) If the hospital maintains its present tax-exempt status, competition with private real estate interests may reach significant proportions.
- 6) Physicians may face increased commitments resulting in closed staffs and total loyalty to the employing hospital, among other trends.

In spite of these disadvantages, the temptation is great for the young physician to consider hospital-based employment. A salaried arrangement usually guarantees a staff appointment. The proximity to the hospital may improve the use of professional time. The hospital frequently assumes responsibility for business management, and investment and retirement funds, thus relieving the physician of these considerations. Proximity to the hospital may aid attendance at committee, staff, departmental, and continuing education meetings. Access to an excellent library and guaranteed parking and security may be additional incentives.

In preparing this column, I interviewed a number of physicians, including salaried physicians, physicians in practice groups and solo practice, subspecialists, general internists, and former salaried physicians. Practitioners of all backgrounds voiced feelings of fear. Much of the fear

was based on general uncertainties about the future. Specific fears were:

- 1) Favored staffs. With hospital resources limited and technological access located principally in hospitals, non-aligned practitioners may be excluded or significantly reduced in order to preserve access to the hospital by the salaried physicians. This is related to fears about closed staffs, complex rules concerning access, increased commitment and demands for volunteer time donations to practice groups, and other trends.
- 2) Competitive measures. Salaried physicians may find themselves in a competitive situation in which the technology available may be the factor that will create the image that the best physician and superior care is found at a hospital rather than in the cognitive skills of the physician.
- 3) Controlled overhead. The hospital offers to take over management costs. However, there is no assurance that such costs are efficient. Certainly, creative bookkeeping and allocation of space, and better management and marketing of services can be accomplished. I predict that this will occur, since economic and financial realities will force a change in institutional practice.

In 1981 in the United States there were 155,000 physicians who had entered into some financial relationship with hospitals; of these over 60 per cent were salaried arrangements. Increased numbers of physicians and decreased choices of practice alternatives will undoubtedly increase these numbers. Finally, while hospitals often adopt competitive postures with other hospitals, restricted community controls (such as certificate-of-need and prospective reimbursement) also insure that hospitals will maintain high occupancy rates. The attraction of developing sources of funding outside of these controls will be great. Control of physicians and in particular guiding their behavior is a ready source of these increased funds. This concentration of power in the hospital (nearly 90 per cent of the health dollar) may prove not to be a desirable goal for the community.

Employed Medical Directors versus Medical Staff

At present 50 per cent of the non-federal patient care physicians (excluding residents) are affiliated with hospitals that have salaried medical director or chiefs. The risk here is that the medi-

cal directors may direct their loyalty to the institution rather than to collective opinions of the medical staff. Recent "town and gown" problems in Rhode Island developed when a medical director advised actions beneficial to the institution but contrary to the perceived goals of the medical staff. Perhaps if medical directors were paid in part by the staffs they represent, the risk of this overidentification with institutions might be reduced. A survey by the SMS of the AMA found that a substantial percentage of staff physicians do not believe that medical directors represent the interests of the medical staff.

Changing Relationships between Hospitals and Physicians

From the above, there seems to be little doubt that physicians will be brought into increasing confrontations with hospitals. The development of physician unions, practice groups, independent practice associations (IPAs), health maintenance organizations (HMOs), and similar groupings of physicians are taking place in an effort to increase physicians' options in negotiating arrangements in their best interests.

In recognition of these stresses the AMA has authorized the formation of a group representing hospital staffs to become an integral part of organized medicine. The purpose is to utilize this group in maintaining quality care, efficient services, and cost containment activities.

Increasing competition will continue to present problems in the foreseeable future and probably over the next two decades or more. Hospitals are not necessarily our enemy. They need not be in constant adversary postures with physicians. Physicians and hospitals, both individually and collectively, must recognize that the problems are mutual and that protracted bickering is not in their own best interests or that of the community. Hospital governing boards must recognize that their institutions are community resources. Physicians must continue to reinforce their commitment to quality care, cost efficient services, and the public (patient) good. Working together to solve these problems should in the foreseeable future be a major commitment of both organized medicine and the hospitals.

Melvin D. Hoffman, MD

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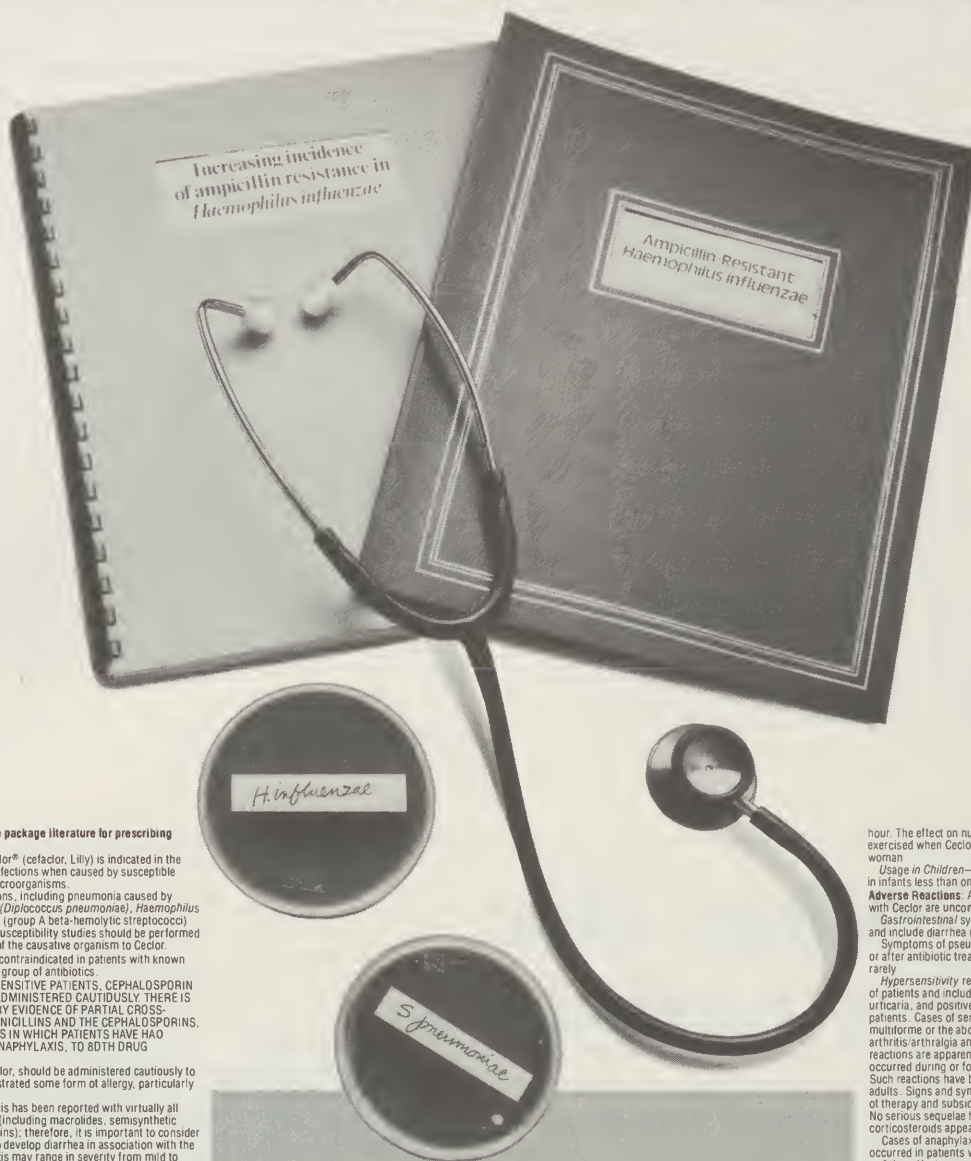
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An added complication... in the treatment of bacterial bronchitis*



Brief Summary. Consult the package literature for prescribing information.

Indications and Usage: Cefaclor* (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms.

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae* (*Diplococcus pneumoniae*), *Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci).

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Cefaclor.

Contraindication: Cefaclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS. AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES.

Antibiotics, including Cefaclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics. Such colitis may range in severity from mild to life-threatening.

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis.

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone. In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation. When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile*. Other causes of colitis should be ruled out.

Precautions: General Precautions.—If an allergic reaction to Cefaclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of Cefaclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug.

Cefaclor should be administered with caution in the presence of markedly impaired renal function. Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Cefaclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinistest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

Usage in Pregnancy.—Pregnancy Category B—Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Cefaclor. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers.—Small amounts of Cefaclor have been detected in mother's milk following administration of single 500-mg doses. Average levels were 0.18, 0.20, 0.21, and 0.16 mcg/ml at two, three, four, and five hours respectively. Trace amounts were detected at one

Some ampicillin-resistant strains of *Haemophilus influenzae*—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Cefaclor.¹⁻⁶

In clinical trials, patients with bacterial bronchitis due to susceptible strains of *Streptococcus pneumoniae*, *H. influenzae*, *S. pyogenes* (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Cefaclor.⁷

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hour. The effect on nursing infants is not known. Caution should be exercised when Cefaclor* (cefaclor, Lilly) is administered to a nursing woman.

Usage in Children.—Safety and effectiveness of this product for use in infants less than one month of age have not been established.

Adverse Reactions. Adverse effects considered related to therapy with Cefaclor are uncommon and are listed below.

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70).

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment. Nausea and vomiting have been reported rarely.

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthritis and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Cefaclor. Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy. Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain.—Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic.—Slight elevations of SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic.—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal.—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

(061782R)

*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.

Note: Cefaclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

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Ambulatory Surgical Facilities

Progress toward full application of the ambulatory surgical facility (ASF) concept in Rhode Island has been glacial. At the present time one hospital-based facility (Rhode Island Hospital) and one free-standing facility (Blackstone Valley Surgicare) are in operation. These have been functioning for several years.

Ambulatory surgery in this special sense does not refer to the type of limited surgery customarily performed under local anaesthesia in an office or out-patient setting. Rather it indicates larger procedures usually (but not necessarily) requiring general anaesthesia, which must be performed in the hospital if appropriate ambulatory facilities are not provided. A list of such procedures is available nationally and has been approved with minor modifications by a committee of the Rhode Island Medical Society.

An ASF warranting approval must be comprised of all components: 1. A well equipped and professionally staffed operating room, 2. A professional anaesthesia department staffed by physicians, and 3. A well equipped and professionally staffed recovery room. If these three elements are provided, the procedures on the list can generally be safely performed in such a facility.

It should then be required that appropriate procedures be performed in such facilities on pain of denial of reimbursement when performed on a patient admitted to a hospital. Exceptions should be made when there are documented medical or surgical contraindications. Monitoring of non-compliance should be a responsibility of the Utilization Review Committees and coordinators.

At the present time, as noted, only one hospital is so equipped. It would be imprudent, therefore, to force compliance in the others. A few additional hospitals have indicated interest in developing such facilities. To accelerate compliance, the differing needs of the various hospitals must be taken into consideration. These should be ana-

lyzed and negotiated among the hospitals, the third party payers, and the health planning groups.

In some cases the regular operating rooms and spare recovery room beds may be available. In others capital expenditures will be necessary to establish the facilities and operating funds for staffing. In some of the smaller hospitals it may not be cost-effective to provide either the facilities or the staffing. Once the facilities and services are available, individual decisions not to utilize them in the absence of contraindications, should not longer be optional.

There has been reluctance to use such facilities for certain procedures. Among them are teenage and adult T and As, breast biopsies, and oral surgical procedures such as impacted molars. With competent recovery room service wide experience has demonstrated that there rarely is need for admission although admission sometimes becomes necessary even in the case of minor office surgery. The likelihood of spreading tumor if cancer is found unexpectedly in a breast is minimal when radical surgery can be performed within a few days. Only in those cases where cancer is apparent should excision or biopsy be performed in the operating room preceding radical surgery.

The special case of the Blackstone Valley facility raises other questions, since it is a profit making enterprise. It would seem, however, that one or more of the several hospitals in the Blackstone Valley area could advantageously make arrangements for use of this facility, which would avoid the expense of duplicating something that already exists. Many precedents exist for use of private off-campus services by non-profit hospitals.

It is no longer necessary to accumulate statistics to demonstrate the need. Time for action has arrived.

Seebert J. Goldowsky, MD

Federal Takeover of Medicaid

At its meeting in November the National Governors' Association sent to President Ronald Reagan a preliminary federalism proposal as an example of one that it could support. The proposal provides for the federal government to assume responsibility for all or part of Medicaid in exchange for state assumption of a comparable level of categorical programs. Medicaid, the fastest growing of the public assistance programs, can be divided into three components: (A) acute care benefits for those eligible for Supplementary Security Income (SSI); (B) acute care benefits for those receiving Aid to Families with Dependent Children (AFDC); and (C) long-term care benefits. The federal government would assume control over one, two, or three of the components in exchange for state assumption of the costs and management of categorical programs in health, vocational education, community development, and transportation. Federal participation would be in the form of block grants.

Acute care coverage would be uniform nationally, except that individuals' current courses of treatment would be maintained on a "grandfathering" basis. Limits on duration and scope of covered services would be equal to the weighted average of current state programs.

The governors defined acute care services as: inpatient hospital; outpatient hospital or clinic; physicians' services; laboratory; X-ray; other diagnostic services; comprehensive services for children; prescription drugs; 100 days of SNF coverage for recuperative care following hospitalization; durable medical equipment and supplies including oxygen; limited dental care (when health is threatened); and ambulance services.

The National Governors' Association has been consulting with the National Conference of State Legislatures, and has pledged its cooperation in working with the administration to accomplish federalism reform.

There is much to commend this proposal for serious consideration. It would result in uniform administration and reimbursement of the Medicaid program. While the Rhode Island Medicaid program is among the best managed in the country, it is still, even with federal participation, very expensive for the state. The programs, which would be assumed in its place would be logical state responsibilities. It is a plan which should not be dismissed lightly.

Seebert J. Goldowsky, MD

Wood Fuel as a Source of Air Pollution

A recent bulletin of the Rhode Island Department of Health alerted the state's medical profession to the dangers of carbon monoxide poisoning, listing a half dozen potential sources, not including tobacco smoke. Among those listed were wood stoves and fireplaces.

The American Council on Science and Health is now circulating material emphasizing the overall safety hazards of wood burning. In addition to burns and fires, woodburning, whether in wood-burning stoves or fireplaces, can produce significant amounts of air pollution, and can present other safety hazards if appropriate precautions are not taken.

The use of wood as a home fuel has burgeoned in the past ten years since the fuel crisis. Wood

may be the primary fuel used as a source of heat in 2.5 million households by the year 2000. It is imperative that its dangers as a pollutant be recognized.

Smoke from wood fires was probably the earliest man-made pollutant. The burning of wood produces more than 100 different chemicals which can be considered pollutants.

Emissions from wood-burning stoves can contribute a substantial proportion of the total air pollution both indoors and out. Measurements made in an Oregon community indicated that half of the particulate matter in the ambient outside air came from residential wood burning. Wood burning produces both carbon monoxide and particulate matter. Hardwoods, such as oak,

maple, and birch produce less pollution than the soft woods, such as pine, fir, and spruce. Artificial logs should not be used in stoves as they can cause explosions and may also release toxic gases into the indoor environment. They were designed for fireplace use, and not for the high temperatures of wood-burning stoves.

Tobacco smoke added to the pollutants from stoves and fireplaces can compound the hazards.

Wood is not a problem-free energy source. The use of firewood for heating will undoubtedly con-

tinue, but its difficulties must be dealt with. Some of these can be resolved by advances in technology, such as the use of catalytic converters on wood-burning stoves to reduce pollutant emissions. Indoor air pollution and other hazards, particularly the risk of fires and burns, can be greatly reduced or eliminated by proper, careful installation and operation of fireplaces and stoves.

Seebert J. Goldowsky, MD

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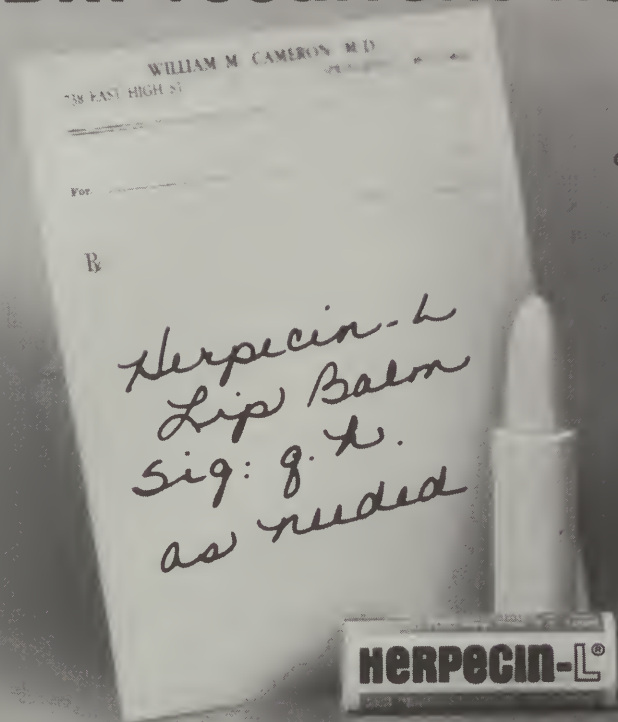
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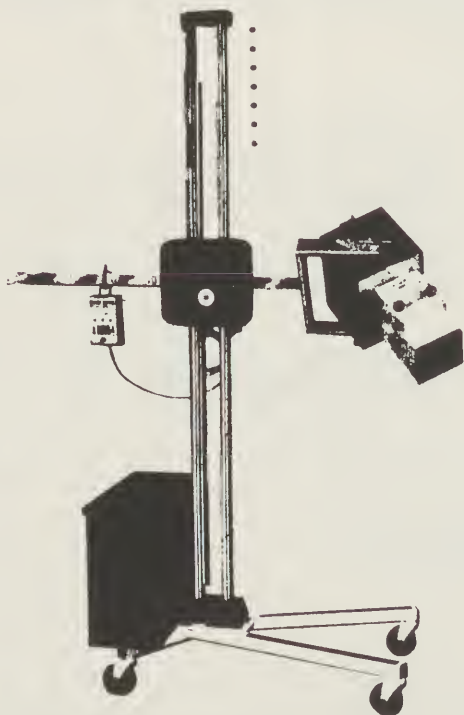
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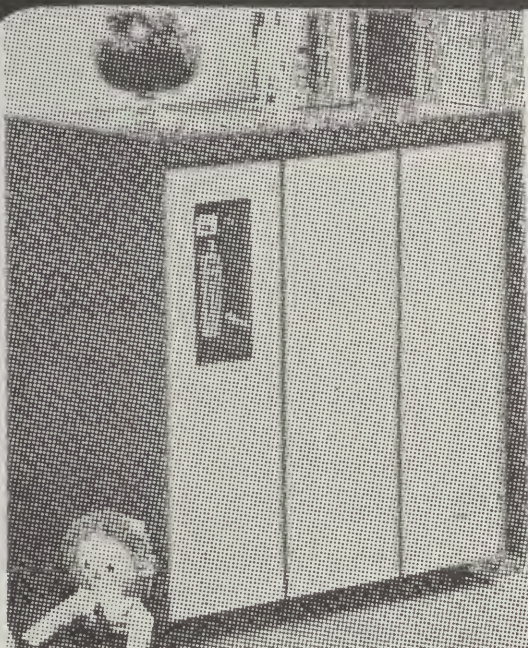
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One Sentence Essay Alas, Too True!

Literacy is not a highly valued commodity in our society in general and in medicine in particular.

*Robert G. Petersdorf, MD
Dean, School of Medicine
University of California
San Diego*

SOCIETY NEWSBRIEFS

- The AMA recently issued a series of patient medication instruction sheets designed as patient hand-outs for 20 commonly-prescribed medications. The sheets describe each medication's proper use, precautions and side effects. Samples and order forms are available from the PMI Order Department, American Medical Association, P.O. Box 52, Rolling Meadows, IL 60068.
- The Society's House of Delegates met January 22, 1983; the March *Journal* will include a detailed report of the House's actions.
- Future Society meetings include:

Weds., March 16 — House of Delegates

Fri., April 22 — Practice Management Seminar: "Gearing Up for Retirement," Providence Marriott

Weds., May 25 — RIMS Annual Meeting, Providence Marriott

Weds.-Thurs., May 25-26 — 6th Annual Seminar in Current Concepts in Fetal and Neonatal Care, Providence Marriott (with co-sponsors)

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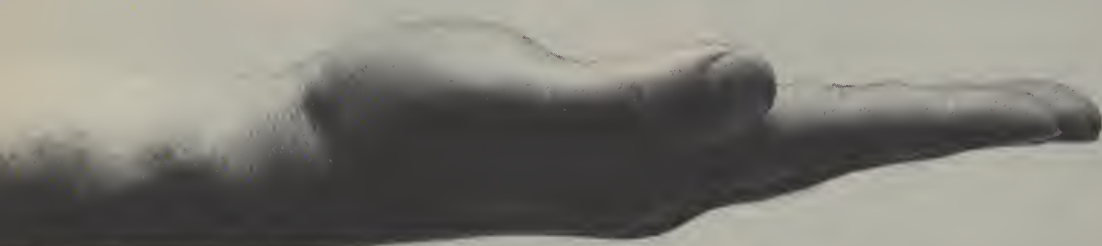
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Acute Gastric Dilatation Associated With Viral Hepatitis-A

Treatment of Gastric Dilatation Associated With Medical Disorders Is Simple and Effective

W. Christopher Ehmann, MD
Tom J. Wachtel, MD

Acute gastric dilatation is a potentially fatal condition if not managed as an emergency. Surgeons are quite familiar with this entity when it occurs as a complication of abdominal surgery; they commonly treat it prophylactically with postoperative nasogastric suction. However, it can also occur spontaneously or as a complication of various illnesses. The challenge to a physician is in recognizing the condition as an acute abdomen that does not require surgery, but simply decompression with a gastric tube for prompt life-saving relief. We present a case of acute gastric dilatation occurring as a prodrome to viral hepatitis.

Case Report

A 52-year-old white male was admitted with a three day history of fever and abdominal pain. The patient, retarded since birth, had a seizure disorder controlled with phenobarbital and val-

proic acid. He lived in a group home in the community, and none of the other residents were ill. Past medical history was significant for removal of a basal cell carcinoma of the nose, a positive intermediate strength PPD with a normal chest x-ray study, and no previous surgical procedure.

On examination, the patient had a fever of 105°F (40.5°C), and a heart rate of 110. Blood pressure and respiratory rate were normal. Skin was anicteric. Lungs were clear, and the cardiac examination was normal. The abdomen was rigid and distended, and no bowel sounds were audible. Tenderness was elicited in all quadrants, but there was no rebound tenderness or organomegaly. Rectal examination revealed straw colored stool which tested negative for occult blood. The patient had a normal neurological exam, except for moderate mental retardation.

CBC revealed a hemoglobin of 13.8 gms/dl. The white blood cell count was 5,100/mm³, with a differential of 55 polys, 3 bands, 20 lymphocytes, 19 monocytes, 2 eosinophils, and 1 basophile. Platelet count was 80,000/mm³. Urinalysis showed only trace ketones and trace protein. Electrocardiogram was normal. The chest x-ray and abdominal films showed a massively dilated stomach (Figs 1&2), but no free air. SGOT was 1205 IU/L (5-31), SGPT 940 IU/L (5-31), LDH 1,118 IU/L (140-420), CPK 778 IU/L (15-135), alkaline phosphatase 14.8 IU/L (4-13), bilirubin

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Tom J. Wachtel, MD, is Director, Medical Primary Care Unit, Rhode Island Hospital, Providence, Rhode Island.



Figure 1. Upright PA chest x-ray on the day of admission.



Figure 2. Flat abdominal x-ray film on the day of admission.

2.5 mg per cent, with a direct bilirubin of 1.4 mg per cent, amylase normal, and prothrombin activity was 30 per cent of normal.

After sedation with haloperidol and phenobarbital, nasogastric suction was begun. The fever was treated with acetaminophen. Numerous blood cultures were drawn and were negative. Two days later marked icterus was noted, and hepatomegaly and right upper quadrant tenderness were noted. A repeat abdominal film was normal, and bowel sounds were now audible. An ultrasound examination of the gallbladder and biliary tree were normal. An upper gastrointestinal series was normal. There was no evidence of gastric outlet obstruction. An oral cholecystogram revealed a non-visualizing gallbladder. The bilirubin rose to a peak of 9.4 mg per cent. Phenytoin was administered instead of phenobarbital and valproic acid.

An ox-cell hemolysin titre was less than 1:10: acute and convalescent Toxoplasmosis and Cytomegalovirus titres for both IgG and IgM showed no evidence of infection, past or present. Serology for viral hepatitis revealed a markedly elevated titre of IgM antibody to hepatitis-A antigen. HBsAg and Anti-HBsAg antibodies were negative, as were antibodies to HBC antigen. The patient defervesced, and his appetite returned. His liver enzymes, prothrombin activity, and platelet count returned to normal over the following two weeks. He was discharged on phenobarbital and diphenylhydantoin, feeling well.

Discussion

Acute gastric dilatation occurs most frequently as a complication of abdominal surgery (particularly gastric surgery), now less frequently because of the routine use of nasogastric suctioning post-operatively.¹ It has also been associated with pneumonia, diabetic ketoacidosis, large doses of anticholinergic drugs,² and trauma,³ particularly cervical cord injuries.⁴ This condition can rarely occur spontaneously and has been described in several patients with anorexia nervosa,^{5, 6} some whose stomachs actually ruptured;^{7, 8} several of these patients had been overeating intentionally in an effort to gain weight. Gastric distention, as a complication of aerophagia, was reported in a patient who had undergone a laryngectomy and persisted in attempts at esophageal speech following a subsequent unrelated surgical procedure (retropubic prostatectomy).⁹

The mechanism of acute gastric dilatation is not known. Excessive air swallowing has been implicated in some cases. It appears that disten-

tion of the stomach beyond a certain point will eventually increase the angulation of the duodenum, so that gastric emptying cannot occur spontaneously, and the condition becomes self-perpetuating.¹⁰

Our patient developed fever and acute gastric dilatation as a prodrome of viral hepatitis. This diagnosis was proven by serologic testing. Gastric dilatation has not been described in patients taking either phenobarbital or valproic acid, and our patient had been on these medications for over six months without any ill effects prior to his admission. To our knowledge, viral hepatitis presenting with gastric dilatation has never been reported.

Left unrecognized and untreated, acute gastric dilatation can have a fatal outcome resulting from fluid and electrolyte imbalance or more rarely from rupture of the stomach. Treatment is simple, consisting of decompression with a gastric tube and correction of any fluid and electrolyte imbalance.

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Rhode Island Hospital
Providence, RI 02902

To the Editor:

On page 501 of the December issue of the *Journal* (Volume 65, Number 12), in Dr. John Dziob's paper about the 48th Evacuation Hospital, there is a picture of seven doctors. Seated in the middle foreground is Dr. Wilbur Manter, not Dr. William Hunter as noted in the caption. Dr. Manter, who took his training at the Rhode Island Hospital, is a distinguished cardiologist in Bangor, Maine.

Thomas Perry Jr., MD

Dr. Manter probably would not be offended by being mistaken for the late, great William Hunter. Incidentally, the unidentified medical officer seated in the center photograph on page 503 is Dr. Thomas Perry, Jr. Ed.

To the Editor:

In the past three years, ten cases of thrombotic thrombocytopenic purpura (TTP) have occurred in Rhode Island and the nearby Massachusetts area (Fig. 1). Eight of these ten cases were referred to the Rhode Island Hospital and underwent treatment with plasma, plasma exchange or both. The other two cases were treated at other institutions. Five of these patients are alive and five have died. Four of the five deaths were directly related to TTP and occurred during the initial hospitalization. One patient died of *Legionella pneumonia* in another hospital within a month of being previously discharged in an apparently stable condition.

The details of these patients' diagnostic evaluation and treatment, as well as certain genetic studies that were done on a twin/niece/uncle combination, have been described in a separate report.¹ The purpose of this letter is to alert area physicians to the increased frequency with which TTP is being encountered in our region. The previous apparent rarity of the condition is indicated by our review of the records at the Rhode Island Hospital from 1969 to 1979 in which only one case was found.

TTP should be suspected in any patient with signs of hemolytic anemia and thrombocytopenia.² Inspection of the peripheral blood

smear will suggest the diagnosis in the majority of cases although one patient in our series with biopsy-proven TTP had relatively scanty microangiopathic changes. The diagnosis can be confirmed by pathological examination of skin lesions in doubtful cases. Therapy with corticoster-

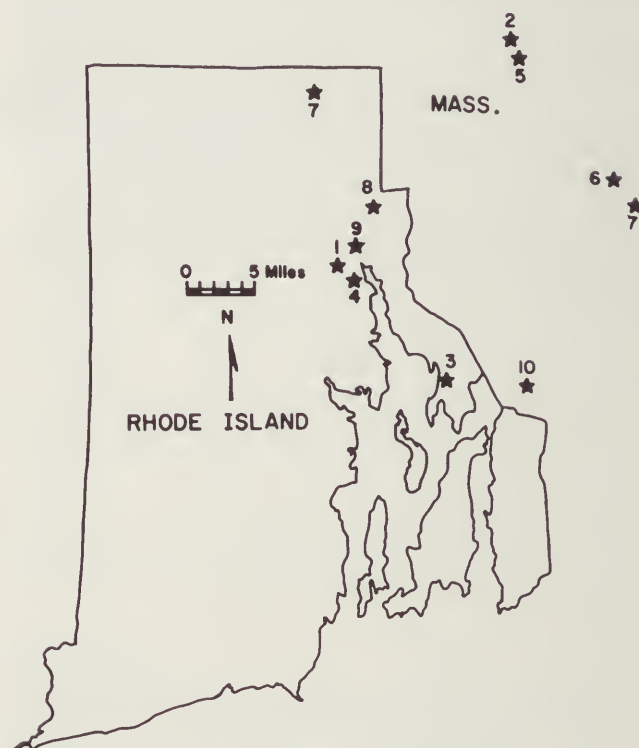


Figure 1. Location of patients at disease onset.

oids and plasma may be life-saving, particularly if instituted early in the course of the disorder. Other therapies such as antiplatelet agents, vincristine, and perhaps splenectomy may have some value in cases resistant to plasma exchange and corticosteroids.

James P. Crowley, MD
Associate Professor of Medicine
Brown University

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Problem of Vague Academic Evaluations in Selection of Residents: A Case Study

Medical School Grades When Available and National Board Part II Results Provide Best Criteria for Evaluation

John P. Fulton, PhD
Steven A. Wartman, MD, PhD
Tom J. Wachtel, MD
Albert F. Wessen, PhD
Herbert P. Constantine, MD
David B. Reuben, MD

The selection of medical residents for residency training programs, a time-consuming perennial process, has inspired a body of research in recent years. This research has tended to focus on the factors involved in the selection process.

A recent survey of otolaryngology programs in the United States¹ revealed that the selection committee places primary importance on the personal interview, followed next by the dean's letter.

From the Division of General Internal Medicine, Rhode Island Hospital and the Program in Medicine, Brown University, Providence, Rhode Island. The work upon which this study is based was supported in part by Grant #5-D28 PE 11091-02 from the Department of Health and Human Services, Public Health Service.

John P. Fulton, PhD, Assistant Professor, Research, Brown University, Providence, Rhode Island.

Steven A. Wartman, MD, PhD, Director of the Division of General Internal Medicine, Rhode Island Hospital, Providence, Rhode Island.

Tom J. Wachtel, MD, Director of the Medical Primary Care Unit, Rhode Island Hospital, Providence, Rhode Island.

Wagoner and Gray² surveyed a random sample of graduate education program directors in internal medicine, family medicine, surgery, and pediatrics. Again, components of the personal interview were considered of major importance in the selection process as were the dean's letter, other measures of academic performance, and the quality of the medical school. The authors also reported that the program directors seemed to place similar priorities on the selection factors listed, regardless of specialty.

A number of authors have questioned the reliability of frequently used selection factors. Gordon and Lincoln³ found the reliability of personal interview ratings so low that the formal interview was dropped from their selection process. The reliability of other selection factors, however,

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appeared to be quite good, including information from the application face sheet, dean's letter, and candidate's personal statement. In a recent paper, Milstein et al⁴ raised further questions about the reliability and validity of interview ratings, demonstrating that they may be influenced both by rating tendencies of interviewers and by dissimilarities between interviewers and candidates.

Finally, a number of authors have questioned the power of selection factors to predict the performance of residents. Stanton et al⁵ found a correlation between ratings in the dean's letter and subsequent performance in the residency years. Werner et al⁶ did not find a correlation between the preadmission ranks of 23 pediatric interns and their end-of-year performance ratings. However, the number of interns studied was small, and the group may have been quite homogeneous. Moss, Deland, and Maloney⁷ report that surgical residents "from graded schools performed significantly better" than residents from pass/fail schools. Lastly, Keck et al⁸ studied the predictive power of several selection factors with a group of 56 residents. Grade-point average in medical school, NBME* II scores (usually available to resident selection committees only late in the selection process) and evaluation of clinical clerkships (usually found in the dean's letter) were significantly correlated with resident performance, while the personal interview rating was not so correlated.

In sum, the literature demonstrates a strong preference in many residency training programs for certain selection factors, including the personal interview, dean's letter, grades in medical school, and the quality of the medical school. Evidence of the reliability and predictive power of different selection factors is inconclusive at present. Little seems to be known about the ways in which selection committees *actually make use of selection factors*, except what may be inferred from preferences for them. The present study addresses this issue.

Methods

This study was undertaken in the Division of General Internal Medicine of a 700-bed, university-affiliated hospital. The Division has an NRMP† matching number distinct from the De-

partment of Medicine for a special track in primary care for residents. The faculty of the Division are responsible for their own selection process, assisted by the Chief of Medicine and the Director of Medical Education. The data analyzed in this study were collected during the first two annual cycles of selection. Four internists and two medical sociologists participated in this process. (One internist replaced another in year two.)

Each candidate was interviewed and evaluated by one of the internists. About half were also interviewed and evaluated by one of the sociologists. In year two, for reasons of economy, the sociologists saw only candidates who had been identified as "superior" on the basis of an abstract of their application folder or their interviews with the internists.

Each interviewer was asked to review material from a candidate's application folder (especially the dean's letter, evaluation of clerkships, practical experiences, and scores on the NBME examination, Part I; scores on Part II were not specifically requested by our program during the two study years), to interview and then to rate the candidate (on commitment, knowledge and experience, interpersonal skills, and overall qualifications). When all candidates had been interviewed, each faculty member ranked the candidates he had rated. These individual rank lists were collated in rough fashion to facilitate the assignment of final ranks, a group process in which all faculty members participated.

Data were coded from application folders, interview forms, individual faculty evaluations, and final (group) ranks, then keypunched for computer analysis. Table 1 lists the variables included in the analysis, which was performed in two parts.

Part one studied the decision process of faculty members, for which the unit of analysis was the *individual faculty evaluation* (expressed on a four-point scale). This dependent variable was regressed on all other variables except final rank, which is irrelevant to this stage of the decision-making process.

Part two studied the decision process of the faculty group, for which the unit of analysis was the *candidate's final overall rank*. This dependent variable was regressed on demographic variables, quality of medical school, variables reflecting academic achievement, and the mean of all individual faculty evaluations for a candidate. (The means of commitment and interpersonal skills ratings were not used, because, as we shall see, these ratings were highly correlated with individual faculty evaluations.)

* National Board of Medical Examiners.

† National Resident Matching Program.

Table 1. Variables Included in the Study

Demographic:
Age
Sex
Marital status
Medical school:
Perceived quality of medical school ⁹
Academic record:
Dean's overall recommendation
Clerkship honors
Practical experiences
NBME, Part I score
Interview:
Commitment
Knowledge and experience
Interpersonal skills
Overall evaluations by faculty:
Individual faculty evaluation
Final rank

Table 2. Regression Analysis: *Individual Faculty Evaluation* Regressed on Selection Factors, Years One and Two

Selection Factor	Beta Weight ^a	Simple r ^b
Year One:		
Commitment	.52	.76
Interpersonal skills	(.21) ^c	.71
Medical school ^d	.21	.29
Dean's recommendation	.19	.29
Age	-.20	-.15
Overall R ² = .69		
Year Two:		
Commitment	.62	.75
Interpersonal skills	.27	.57 ^e
Overall R ² = .63		

^a Statistically significant at the .01 probability level.^b Correlation (Pearson's *r*) between dependent variable and specified independent variable (zero-order).^c Not statistically significant; correlation between commitment and interpersonal skills = .77, resulting in a low Beta weight for the latter.^d Perceived quality.^e Correlation between commitment and interpersonal skills = .45, resulting in a low Beta weight for the latter.

Results

Regression analyses were performed separately for each of the two years of the study. Forty-nine individual faculty evaluations and 31 final ranks were available for year one; 121 individual faculty evaluations and 67 final ranks were available for year two. Table 2 contains the results of the first part of the analysis for years one and two.

Nearly 70 per cent of the variance in individual faculty evaluations is explained in year one; 63 per cent is explained in year two. Clearly, commitment and interpersonal skills ratings are the most important independent variables in both years. In year one, the quality of the medical school, the dean's recommendation, and age (older candidates were favored) also demonstrate independent effects which are statistically significant at the .01 probability level. No other variables had statistically significant independent effects in either year. It is evident that the non-interview variables explained little of the variance in individual faculty evaluations, even in year one.

In Table 3, which contains the results of the second part of the analysis for years one and two, 84 per cent of the variance in final ranks is explained in year one, 77 per cent in year two. The mean faculty evaluation has the greatest independent effect on final rank in both years. This is to be expected, since the final rankings were arrived

Table 3. Regression Analysis: *Final Rank* Regressed on Selection Factors, Years One and Two

Selection Factor	Beta Weight ^a	Simple r ^b
Year One:		
Faculty evaluation ^c	.70	.83
Medical school ^d	.34	.45
Sex (female = 1; male = 2)	-.32	-.37
Overall R ² = .84		
Year Two:		
Faculty evaluation	.75	.83
Medical school	.19	.35
Clerkship honors	.12	.35
Age	.12	.06
Overall R ² = .77		

^a Statistically significant at the .01 probability level.^b Correlation (Pearson's *r*) between dependent variable and specified independent variable (zero-order).^c Mean of individual faculty evaluations.^d Perceived quality.

at through discussion among the faculty evaluators. Still, the quality of the medical school has a statistically significant effect in years one and two, as does sex in year one and clerkship honors and age in year two.

Discussion

The importance of the personal interview in the above findings is striking. It must be noted, however, that the faculty observed in this study were selecting residents for a new primary care program and wished to avoid two failures: Selecting candidates who might choose to pursue careers outside of primary care medicine, and selecting candidates who might be considered academic inferiors to those selected by the Department of Medicine. Thus, academic as well as non-academic characteristics were considered important foci of evaluation. Yet, faculty evaluations were not significantly influenced by standard test scores or medical school grades.

Results of the NBME I examination did not contribute to either set of regression analyses, a finding which is consistent with their low rating by residency program directors in the study by Wagoner and Gray.² The faculty associated with the present study were observed to remark that scores from the NBME I examination might be poor predictors of performance during the residency years and thereafter.

The dean's recommendation and clerkship honors were used by the faculty, but without much weight. Stanton et al⁵ found the dean's letter to yield reliable rankings of performance. Our faculty had little difficulty assigning deans' recommendations to three ranks — superlative, positive, and neutral — but nonetheless the regression analysis suggests that they contributed little to faculty evaluations. The faculty attributed practical significance to the difference between neutral and other recommendations. However, the former represented only 10 per cent of the first year's recommendations and 12 per cent of the second year's recommendations, probably because deans' recommendations are shared with applicants and are specifically designed to help them obtain desired residencies. Little practical significance was attributed to the difference between positive and superlative recommendations, especially as they came from many different deans. The literature has demonstrated that evaluators have different styles of ranking. Some use the highest ranks more than others.^{4, 5} It is difficult to know how much of the difference between positive and superlative deans' recom-

mendations is attributable to style.

Clerkship honors, usually reported in the dean's letter, are a more specific indicator of academic performance, and are reported in the literature as a widely preferred selection factor.² Keck et al⁸ found evaluations of clinical clerkships to be predictive of resident-physician performance. Moss, Deland, and Maloney⁷ found that surgical residents from schools which *graded* medical students performed better than those from schools which merely evaluated them on a pass/fail basis. Unfortunately, a substantial proportion of medical schools do not award honors. Of our year one candidates, for example, 16 per cent attended schools which did not award honors; of our year two candidates, 29 per cent attended such schools. Thus, clerkship honors cannot be used consistently as a measure of academic achievement.

The quality of the medical school (perceived quality) contributed independent explanatory power to three out of four of the regressions described above — a more consistent showing than other indicators of academic achievement. Interestingly, these results do not agree fully with the *preferences* reported by Wagoner and Gray,² highlighting a dilemma in the selection of residents. Although other performance measures are valued more highly than the perceived quality of medical schools, the former may be so vague that the latter, more meaningful to the selection committee, may be used instead. Unfortunately, this may work against the placement of candidates from schools of lesser perceived quality — who may themselves have demonstrated superior academic achievement.

The emphasis given interview ratings by our faculty may also result from the failure of vague performance measures to differentiate candidates. Yet, content analysis of comments written about candidates by interviewers rarely indicates that academic achievement or clinical competence were highlighted in their open-ended descriptions of candidates. That the faculty may be compensating for the inadequacies of performance data with the personal interview is less than desirable. What can be learned reliably about a candidate in an interview should complement, not serve as a substitute for performance data. The personal interview should provide a setting in which the evaluator may consolidate his/her impression of the candidate, integrating the separate evaluations which have been collected in the candidate's application folder. If some of these evaluations are meaningless or absent, the value

of the interview is lessened accordingly.

What can be done to provide selection committees with more meaningful information? There are two possibilities. First, grades, honors, and related class standings may be substituted for pass/fail evaluations and overworked adjectives in the dean's letter. Some would argue, with justification, that a switch from pass/fail to grades would increase competition in some schools, but the findings of Moss, Deland and Maloney⁷ suggest that a measurable improvement in the quality of physicians might also ensue. The main weakness of grades in resident selection is that they represent relative achievement *within* schools, not *across* schools. Nonetheless, they provide much more information about academic performance than do pass/fail evaluations.

Second, performance on the NBME examination, Part II, can be requested of all residency candidates. While this selection factor has been less preferred than others,¹⁻³ at least one study has demonstrated its power in predicting resident performance.⁸ In addition, as a nationally standardized test, NBME II scores are comparable across schools. Unfortunately, the use of these scores presents two problems to selection committees. First, although most medical students have taken the examination by the fall of their senior year, it is estimated that 10 per cent have not.¹⁰ Second, of the 90 per cent who have, many do not have scores until October or November. Since residency candidates begin interviewing in September, many would have to submit NBME II scores *after* interviewing, a less-than-ideal arrangement. Yet, requesting NBME II scores is within the power of selection committees, while altering the evaluation philosophy within medical schools is not. If more residency programs insisted on NBME II scores, the proportion of candidates who took the NBME II examination by September of their senior year would increase.

Our program now plans to request NBME II scores of all candidates as a reasonable short-term solution to the problem of vague evaluations. Further improvement rests in the hands of the medical schools themselves. Future research in this area should investigate the costs and benefits of the pass/fail system and continue to assess the predictive power of the NBME II examination.

Summary

The selection factors used to rank candidates for residency programs have inspired a recent body of research, focusing on their perceived impor-

tance, their reliability, and their power to predict the performance of residents. Little is known about how selection committees actually use different selection factors to rank residency candidates, an issue addressed by the present study.

Regression analysis was used to analyze the importance of different selection factors in evaluating and ranking candidates for a residency program in general internal medicine. Two annual selection cycles were reviewed, yielding similar results. The faculty relied most heavily on the personal interview and the perceived quality of the medical schools attended by candidates in the ranking process. Scores on the NBME examination, Part I, the dean's recommendation, and clerkship honors had little effect on rankings. The strengths and weaknesses of these selection factors are discussed. It is argued that indicators of academic performance from a substantial proportion of medical schools are too vague, complicating the selection process and working against the placement of candidates from schools of lesser perceived quality. Greater use of NBME Part II scores is discussed as a possible short-term solution to a problem which ultimately must be addressed by the medical schools themselves.

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Rhode Island's Aging Population and the Use of Medical Care, 1980-2020

The Central Dilemma of the Contemporary Health System Is Not Likely to Go Away and May Exacerbate

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A recent paper by Russell analyzed the long-run consequences of the aging of the population for the use of medical care in the United States.¹ Projecting backward to 1950 and forward to 2050, this author applied constant age- and sex-specific utilization rates (at early to mid-1970 levels) for hospital care, nursing home care, and physician and dentist visits to the changing size and age structure of the United States population. The projections reported therefore reflect not what *did* happen or *will* happen to medical care utilization in the United States, but what *would* happen if only the size and age structure of the population changed. In brief, Russell's projections show that such changes in population

would significantly affect utilization of hospital and especially nursing home care, but would have comparatively little effect upon outpatient visits to physicians and dentists.

Since the Rhode Island population has been aging more quickly than the population of the United States, the effect locally of changes in the age structure of the population on medical care use merits examination. Accordingly, the authors of the present study applied Russell's general methodology to Rhode Island in order to assess for the period 1980-2020 the impact of changes in population structure and size on the health system in the state independent of changes in other factors. As noted by Russell, the resulting

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projections of medical care use are not those which necessarily will exist nor those which, in the opinion of the authors, ideally should exist. Rather, the projections represent merely the utilization that will occur if the utilization rates remain constant while the population changes in the manner assumed.

Methods

Several different sources provided recent data on the utilization of medical care in Rhode Island. Utilization of short-stay, general hospital services during calendar year 1979—total discharges and total patient days by age and sex of patients—was obtained from the Professional Activity Study (PAS) file of hospital discharge abstracts.* Utilization of nursing home services during calendar year 1979—total patient days—was derived from the Cooperative Health Statistics System (CHSS) survey.† Finally, the Rhode Island Health Interview Survey (1980) provided the number of visits to physicians by the age and sex of patients.² Physician visits are defined here to include all non-inpatient episodes of care with a physician or with a professional practicing under the supervision of a physician.

Limitations in some of these local sources of data required a modification of certain elements of Russell's approach. Since recent estimates of dental visits in Rhode Island were unavailable, dental visits are not included in the projections. Also, the CHSS survey does not record nursing home patient days of care by the age and sex of patients. Consequently, the age and sex distribution of the nursing home patient census, which the CHSS survey did record, was used to apportion total patient days according to the necessary age and sex groupings.

After collecting utilization data for the relevant medical services, the second step of analysis comprised calculation of use rates based on the population of Rhode Island. These age- and sex-specific use rates were computed by dividing nursing home patient days, and hospital patient days and discharges, by estimates of the Rhode

Island resident population taken from the 1980 US Census, the most reliable recent source for the desired age and sex categories.³ Being derived from survey data, the age- and sex-specific use rates for physician visits were produced by dividing the number of visits within each demographic grouping by the number of survey respondents in these groupings.

To summarize, these age- and sex-specific use rates, calculated from medical care utilization data from the most recent year available and 1980 population counts and survey findings, constitute one of two elements in the formula for projecting the use of medical care in Rhode Island for the period 1980-2020 (Table 1). The second element is projection of this population for the same period. Patterns of growth and change in the Rhode Island population from 1960-2020 are described in the following section.

Historical and Projected Changes in the Rhode Island Population

Estimates and projections of the total population and the population within certain broad age groups for the periods 1960-1980 and 1980-2020 in Rhode Island appear in Table 2. The sources of the historical data are the US Censuses carried out in 1960, 1970, and 1980.^{4, 5} The source of the future population figures is the Series E projections developed by the Rhode Island Statewide Planning Program.⁶

From 1980 through 2020, the total population of Rhode Island is projected to increase by approximately 68,000 persons, or 7.2 per cent. The population under 15 years of age is projected first to decline between 1980 and 1990, next to rise to a peak before the year 2000, and then to decline again until the second decade of the twenty-first century. The overall trend projected for this age group between 1980 and 2020 is a net decline of about 12,500 persons, or 6.5 per cent. The population group 15 through 64 years of age is projected to increase until the year 2010, and then to decline through the end of the projection period. The net increase in this population group from 1980 to 2020 is projected to be about 41,000 persons, or 6.6 per cent.

Demographic trends for the elderly population have special significance for the health system, because it is this age group that uses medical services most heavily. The population age 65 and older is projected to increase from 1980 until the last decade of the twentieth century, to decline to a low between 2000 and 2010, and then to increase through the year 2020. On the whole, the

* PAS hospital discharge survey abstracts are in machine readable form in custody of Rhode Island Health Services Research, Inc. (SEARCH), which produced tabulations of hospital use in 1979 by age and sex of the patient.

† The CHSS data collection forms are maintained by Rhode Island Health Services Research, Inc. Patient days and patient census data were abstracted from the 1979 CHSS forms.

Table 1. Use of Medical Care In Rhode Island by Age and Sex:
Rates Used in Computing Projections

		Hospital Care 1979		Nursing Home Care 1979		Physician Visits 1980
		Patient Days Per 1000	Discharges Per 1000	Patient Days Per Person	Visits Per Person	
Females						
0-4	{	281.7	{	77.0	.3272	4.1
5-14						2.3
15-19	{	799.7	{	162.6		2.2
20-44						3.7
45-64		1,357.5		147.8	3.6	
65-74	{	3,288.9	{	270.4	7.1148	4.8
75 +					53.0143	
Males						
0-4	{	376.8	{	72.5	.1915	4.3
5-14						2.6
15-19	{	428.5	{	65.9		2.0
20-44						2.2
45-64		1,453.9		157.0	2.9	
65-74	{	3,922.4	{	340.0	4.9246	4.7
75 +					27.3518	

Table 2. Total Population by Age in Rhode Island:
Estimates (1960-1980) and Projections (1980-2020)

Year	Total Population	Population Age 0-14	Population Age 15-64	Population Age 65 +	Population Age 75 +
Number of Persons					
1960	889,583	243,828	526,120	89,540	30,095
1970	946,725	250,198	592,595	103,932	40,016
1980	947,154	192,327	627,905	126,922	51,359
1990	975,117	184,093	651,817	139,207	55,236
2000	998,950	194,858	669,543	134,549	63,418
2010	1,009,424	181,020	697,616	130,788	60,133
2020	1,015,034	179,792	669,095	166,147	59,704
Cumulative Percentage Increase: 1960-1980					
1960	—	—	—	—	—
1970	6.4	2.6	12.6	16.1	33.0
1980	6.5	-21.1	19.4	41.8	70.7
Cumulative Percentage Increase: 1980-2020					
1990	3.0	-4.3	3.8	9.7	7.6
2000	5.5	1.3	6.6	6.0	23.5
2010	6.6	-5.9	11.1	3.0	17.1
2020	7.2	-6.5	6.6	30.9	16.3

elderly population is projected to increase by about 39,000 persons between 1980 and 2020, or 30.9 per cent. Thus, the cumulative increase in the population age 65 and older is projected to be modest until the World War II "baby boom" cohort moves into this age group beginning in 2010. In comparison, between 1960 and 1980 the Rhode Island population age 65 and older increased by about 37,000 persons, or 41.8 per cent.

Contrary to widespread belief, then, during the past twenty years the Rhode Island health system has had to accommodate a more rapid rate of increase in the elderly population than is projected during the next thirty years. A more rapid rate of growth in the years 1960 to 1980 than for the period 1980 to 2010 is also true of the age group 75 years and older, a cohort with even higher rates of medical care utilization than the total 65+ group. Between 1960 and 1980, this cohort increased by about 21,000 persons, or 70.7 per cent; whereas between 1980 and 2010 the cohort age 75 years and older is projected to increase by about 9,000 persons, or 17.1 per cent.

Projections of the Use of Medical Care

Future estimates of medical care utilization in Rhode Island were produced by applying the age- and sex-specific use rates in Table 1 to the projected population cohorts in Table 2 for the years 1980-2020. These estimates reflect only future changes in the total size and age and sex composition of the Rhode Island population. The implicit assumption is that age- and sex-specific utilization rates from 1979 will remain constant throughout the projection period.

Table 3 displays the projected utilization of short-stay general hospitals in Rhode Island for the period 1980-2020 in terms of both discharges and patient days. As Russell notes, "patient days

is the more important measure because the number of beds required by a given population depends on the days of care it uses."¹ These Rhode Island estimates show that the growth in total patient days will be considerably greater after 2000 than before this year. Moderate growth is evident for 1980-1990 and 1990-2000, at 3.8 and 3.2 per cent respectively. This situation changes in the twenty-first century, when an average increase in total patient days of about 6.7 per cent is projected for the two decades from 2000 to 2020.

The growth in total patient days reflects the increasing size as well as changing age-sex composition of the population. By contrast, growth in patient days per 1,000 persons reflects only the latter process because, as a rate, it is a controlling factor for population size. During the first half of the projection period (1980 to 2000), increases in patient days per 1,000 persons occur at a level somewhat below the increases in total patient days, signifying that these latter increases result chiefly from total population growth. In the second half of the projection period (2000 to 2020), however, increases in both measures become nearly equal, signifying that the changing age-sex composition of the Rhode Island population is the primary cause of utilization increases. To be specific, this pattern results from the "baby boom" cohort moving through middle age and into the ranks of the elderly in the early twenty-first century.

The trend for total hospital discharges and discharges per 1,000 persons generally mirrors that for patient days and patient days per 1,000 persons. For both discharge measures, the major growth occurs in the period 2000 to 2020, although it occurs at a somewhat slower rate than the increase in patient days in these years. The patient-days increase exceeds the rate of increase in hospital discharges, since, as the patient

Table 3. Projected Short-Stay Hospital Utilization in Rhode Island (1980-2020)

Year	Discharges				Patient Days			
	Total	Decennial Percent Change	Per 1,000	Decennial Percent Change	Total	Decennial Percent Change	Per 1,000	Decennial Percent Change
1980	129,886	—	137.1	—	1,058,352	—	1,117.4	—
1990	134,678	3.7	138.1	0.7	1,098,842	3.8	1,126.9	0.9
2000	137,631	2.2	137.8	-0.2	1,133,525	3.2	1,134.7	0.7
2010	141,476	2.8	140.2	1.7	1,186,637	4.7	1,175.6	3.6
2020	148,646	5.1	146.4	4.4	1,290,231	8.7	1,271.1	8.1

population ages, not only are admissions more frequent, but also the average length of stay of older admissions exceeds that of younger patients. Hospital discharges per 1,000 persons in 2020 are projected to be 6.8 per cent higher than in 1980.

Table 4 presents data on projected nursing home utilization in Rhode Island for the period 1980-2020. It is evident that population changes will effect the greatest increases for this type of health service *prior* to the year 2000, both in terms of total patient days and total patient days per person 65+. In the aggregate, for the period 1980-2020 the number of total nursing home patient days will increase by 18.6 per cent as compared to the 21.9 per cent increase in total short-stay hospital days for the same years.

As shown in Table 4, both steady increases in the absolute number of total nursing home patient days throughout the projection period (save for a slight drop in the first decade of the twenty-first century) and a reduction in nursing home utilization per person 65+ after the year 2000 can be expected. In order to understand this finding, Table 2 must be reexamined. Table 2 indicates considerable differences in the decade-to-decade changes in the size of the 65+ and 75+ population groups respectively. In particular, in the year 2020 there will be a 27.0 per cent increase in the overall population 65+, but an actual decrease in the 75+ age group. Because of the pronounced differential in the age-specific nursing home utilization rate between individuals aged 65-74 years and those 75+ — the latter cohort uses nursing home services at a rate approximately seven times the former — the result is a reduction from earlier decades in the overall utilization per elderly person. Again, this finding highlights the distinct contributions that a population's size and age composition can make to the utilization of health services.

Displayed in Table 5 are projected physician visits from 1980 to 2020 under the same assumption of constant age- and sex-specific utilization rates. Total visits and total visits per person are projected to exhibit small and uneven growth over the projection period. This pattern chiefly reflects the modest increases in total population size in these years as well as the movement of the "baby boom" through various age cohorts. Note in this connection that Table 1 indicates that females of child-bearing age (ie, 20-44 years) and the very young and old of both sexes (ie, 0-4 years and 65+ years) have comparatively high physician-visit use rates. On the whole, projected in-

Table 4. Projected Nursing Home Utilization in Rhode Island (1980-2020)

Year	Total Patient Days	Decennial Percent Change	Total Patient Days Per Person 65+	Decennial Percent Change
1980	2,970,985	—	23.4	—
1990	3,182,350	7.1	22.9	-2.1
2000	3,472,781	9.1	25.8	12.7
2010	3,337,728	-3.9	25.5	-1.2
2020	3,522,829	5.6	21.2	-16.9

Table 5. Projected Physician Visits in Rhode Island (1980-2020)

Year	Total Visits	Decennial Percent Change	Total Visits Per Person	Decennial Percent Change
1980	3,021,071	—	3.190	—
1990	3,152,140	+4.3	3.233	+1.3
2000	3,216,536	+2.0	3.220	-0.4
2010	3,196,131	-0.6	3.166	-1.7
2020	3,343,813	+4.6	3.294	+4.0

creases in physician visits will occur at a level somewhat below the forty-year increases in hospital discharges and patient-days and nursing home patient-days.

Health Policy Implications

Based on likely demographic trends, this study projects sizeable increases in the use of medical care services in Rhode Island by the year 2020, following a period of comparatively modest growth in the closing decades of the twentieth century. These increases will result from growth in the total population of the state and in the number of elderly citizens, who have the greatest medical needs. Significantly, inpatient hospital and nursing home services are due to experience the greatest overall upsurges in use, and these are also the most expensive forms of medical care within the health system. What this will mean is the continuation of our current problem of rising health care costs, which already consume more than 11 per cent of gross state product in Rhode Island and strain the resources of businesses, government, and individuals alike.⁷

Two factors within our computations account for future levels of medical care utilization. One is the projection of the Rhode Island population in

the period 1980-2020. Assuming the accuracy of this projection, population aging and increase will be a natural process, and it is one which cannot be altered. The other factor, by contrast, is the set of existing medical care use rates which is susceptible to modification. Two general health policy strategies may help to control the utilization of expensive institutional services. The first is to develop lower-cost, equally effective alternatives to these kinds of services; the second is to make more efficient use of these services.

Considerable evidence indicates that many persons who currently use hospitals could be adequately served in other settings. A recent study by the Rhode Island Department of Health found that in 1978 approximately 7,000 surgical patients in Rhode Island hospitals would have been eligible for treatment on an ambulatory basis.⁸ In the same way, home health care could enable some persons to receive certain therapeutic-level services in their own homes rather than in a hospital setting.^{9, 10} As a final example, hospice care programs could provide terminally ill patients with the option of remaining at home until their disease reaches its final stage.^{11, 12, 13}

As with acute care, there is also the need for a range of alternative services in the long-term care system. Adult day care and sheltered housing programs could permit many elderly persons to avoid, or at least delay, entering into nursing homes.^{14, 15} And home care programs — including therapeutic, maintenance, and homemaker level services — could suitably serve many nursing home residents typically admitted to the Intermediate Care Facility (ICF) level.^{9, 16}

Increasing the efficiency of health care facilities, the second major approach for lowering utilization, means reducing unnecessary admissions and shortening the period of time that patients remain within a facility. Again, for both hospitals and nursing homes, improvements in this area are possible. For example, second-opinion programs for surgery have already succeeded in some areas in reducing the number of persons admitted to hospitals for surgery, while certain management techniques, such as admissions scheduling and utilization review, have helped to cut hospital admissions and stays more generally.^{17, 18} The situation with nursing homes is similar. To select one example, preadmission screening mechanisms have demonstrated some potential to lower significantly use rates below current levels.^{19, 20}

In the end, however, the ideal way of decreasing the utilization of hospitals and nursing homes

would be to improve the health of the population. In pursuit of this goal, changes in lifestyle — such as altering eating, smoking, drinking, and exercise habits — would be the most effective course of action in the long run.²¹ But in terms of health services, the expansion of primary care services could also play an important role in preventing the development of serious health problems.²²

While the future remains uncertain, the analysis in this paper indicates that the central dilemma of the contemporary health system is not likely to go away and may in some respects become even more severe. The goal of improving the population's health within an affordable budget will continue to challenge government, the private sector, and the general public alike. Ideally, the response to this challenge will be a cooperative one.

Acknowledgment

The authors would like to thank Gail Costa of the Office of Health Policy, Rhode Island Department of Health for her helpful comments on an earlier draft of this paper.

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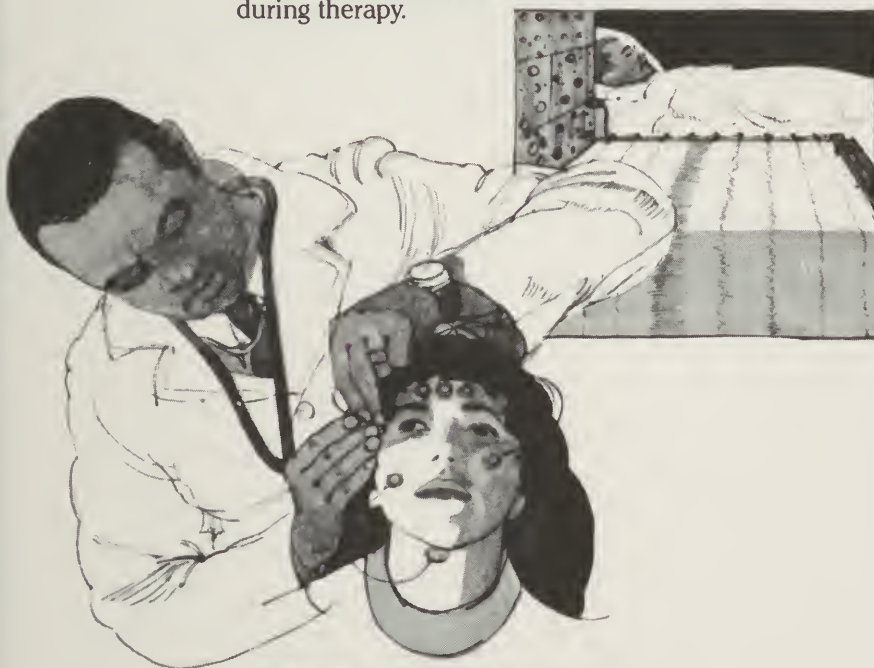
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Contraindications: Known hypersensitivity to flurazepam HCl; pregnancy. Benzodiazepines may cause fetal damage when administered during pregnancy. Several studies suggest an increased risk of congenital malformations associated with benzodiazepine use during the first trimester. Warn patients of the potential risks to the fetus should the possibility of becoming pregnant exist while receiving flurazepam. Instruct patient to discontinue drug prior to becoming pregnant. Consider the possibility of pregnancy prior to instituting therapy.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, e.g., excitement, stimulation and hyperactivity.

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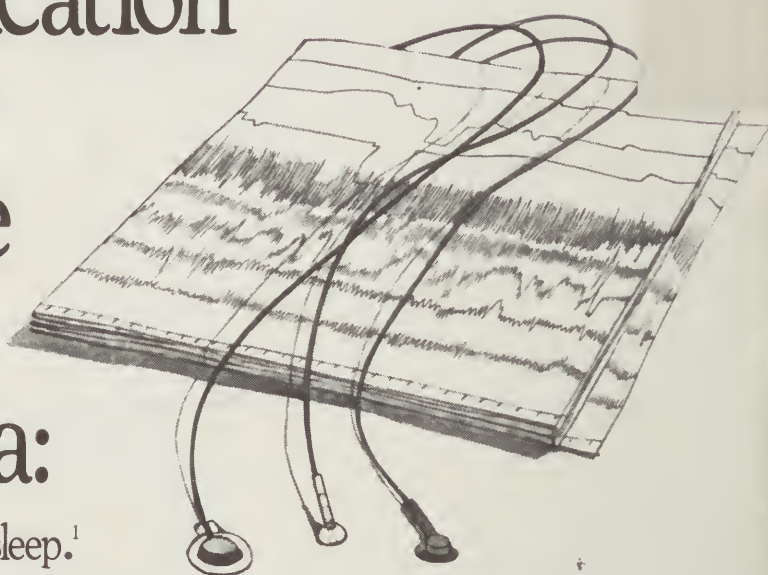
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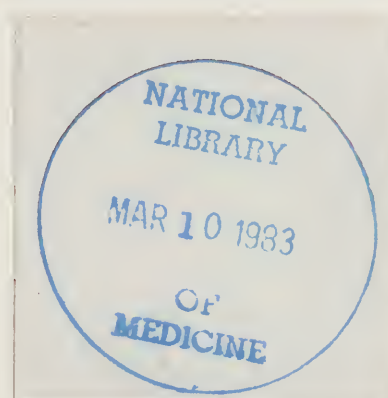
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Volume 66, Number 3



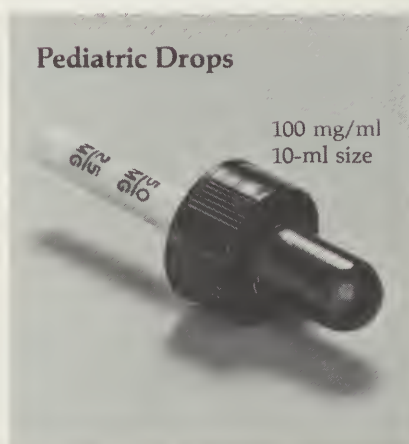
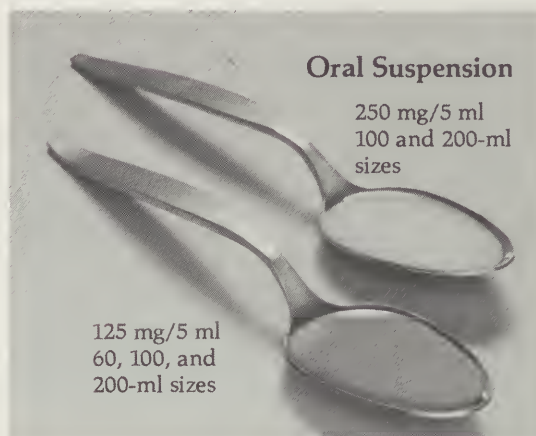
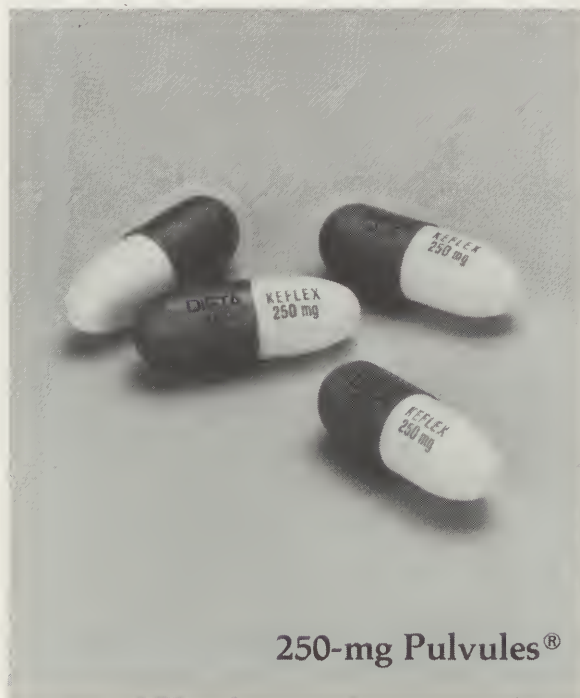
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Newsletter

March, 1983

Melvin D. Hoffman, MD, President
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SOCIETY TO SPONSOR SEMINAR ON RETIREMENT PLANNING

A well-developed plan makes retirement from medical practice much easier. To assure a smooth transition for both physician and spouse, the Rhode Island Medical Society will sponsor a one-day meeting on "Gearing Up for Retirement" on Thursday, April 21, Marriott Inn, Providence.

The workshop -- organized by the AMA's Department of Practice Management -- will deal with personal and professional aspects of retirement, including patient notification and record retention, valuing a medical practice for sale, evaluating employment and volunteer opportunities, and closing a medical office in the event of a physician's death.

Local experts will address retirement investment options, pension distribution methods, estate planning, wills, and probate issues. Because of the long-range implications of many tax and estate planning decisions, the program is recommended even for those physicians who are not contemplating retirement in the immediate future.

Registration is limited to 35 participants. Course fees, which include workbook materials and luncheon, are \$130 for members and \$165 for non-members. There is no additional charge for spouses. For additional information, please call Wendy Smith at the Society's offices (331-3207).

PERINATAL CONFERENCE TO BE HELD IN MAY

The 6th Annual Seminar on "Current Concepts in Fetal and Neonatal Care" will be held May 25-26 at the Marriott Inn, Providence. The meeting is co-sponsored by the Society; Rhode Island Dept. of Health; R.I. Chapter, American Academy of Pediatrics; R.I. Section, American College of Obstetricians/Gynecologists; Nurses' Section, ACOG; and Women and Infants' Hospital.

The two-day meeting will feature plenary sessions on management of premature rupture of membranes, herpes, vaginal birth after cesarean deliveries, and interuterine growth retardation. Workshops will deal with management of diabetic patients, infant resuscitations, ultrasound, fetal monitoring, premature labor and unexpected perinatal outcomes.

The registration fee is \$80 for physicians and \$50 for nurses and housestaff with no charge for students. Category 1 CME credits will be available.

For additional information and registration forms, please call the Society's offices.

HOUSE OF DELEGATES ENDORSES CONCEPT OF PHYSICIAN DIRECTORY

At its January 19 meeting, the House of Delegates endorsed the concept of a physician directory for patients "contingent upon [its] final approval of the directory's format and contents". The House's action also was based on the following conditions: 1) that the directory be produced at no cost to the Society; 2) that physician participation be voluntary; and 3) that provision be made for publication of a second edition within a reasonable period (18-24 months).

The House also:

- approved the addition of a mental health rider to the RIMS Blue Cross/Blue Shield plan for participating physicians and staff. The additional coverage, which is mandatory for all subscribers, will cost \$16.70 for the family plan and \$7.60 for individuals under Plan B and \$17.28 for families and \$7.92 for individuals under Plan 100. The new coverage will become effective with the start of the new policy year on November 1.
- approved a policy statement on "Emergency Medical Services: Prehospital Chain of Command".
- recommended that the AMA study and "make recommendations to appropriate state and federal agencies" on the "rights, privileges and responsibilities of physicians and the role of ancillary personnel" in providing quality care to nursing home residents.

At an earlier meeting in September, 1982, the House:

- approved a proposed 1983 budget totaling \$432,179 in expenditures and set 1983 dues at \$275/member. A comparison of the Society's 1982 dues of \$225 indicated that they were below the national average of \$242 for state medical societies. The 1983 figures are not available.
- re-elected Drs. John J. Cunningham and Herbert F. Hager as AMA delegate and alternate delegate respectively for a two-year term.
- recommended that the Society seek an amendment to the state's medical practice laws which would require physicians with limited licenses to meet the same standards of professional conduct as fully-licensed physicians.

The House of Delegates will hold its next meeting on March 16 at the Medical Society Library. Meetings are open to all RIMS members and copies of the proceedings are available to any member on request.

DR. HOFFMAN REPORTS ON WORKER'S COMPENSATION TO THE RIMS HOUSE OF DELEGATES

At the House's January meeting, Society President Dr. Melvin D. Hoffman noted that physicians, lawyers, and labor alike are upset by provisions of P.L. 82-32 which links physician reimbursement for worker's compensation cases to the Medicare fee schedule.

RIMS officers have met with representatives of the specialty groups especially affected by the change -- orthopedic surgeons, neurosurgeons, plastic surgeons,

WORKER'S COMPENSATION (cont.)

and emergency physicians -- as the first stage in seeking remedial legislation. Because of labor's interest in the issue, Dr. Hoffman said that RIMS's strategy probably will involve close liaison with labor with the Society co-ordinating physician involvement. He emphasized the importance of physicians acting as a unified group on the issue.

HOUSE APPROVES CME LICENSURE REQUIREMENTS

The House of Delegates in January recommended to the state's Board of Examiners in Medicine that physicians obtain at least 60 continuing medical education credits during the licensure period October 1, 1982 through September 30, 1985. The Society's Committee on Standards and Credentials had recommended the action.

A 1976 amendment to the state's medical practice act requires the Rhode Island Medical Society to define a "prescribed course of continuing medical education" for each triennial licensure period. Under House policy, the Society "accepts, but does not limit itself, to all organizations approved for the AMA's Physician Recognition Award".

[Editor's note: The AMA Physician's Recognition Award (PRA) was established in December, 1968 to "encourage physician participation in continuing medical education and to recognize those physicians who have voluntarily completed individual CME programs". More than 108,000 physicians currently have valid PRA certificates. Additional information and application forms are available from the Society's offices at 331-3207.]

Twenty-three states currently require CME documentation for physicians to renew their licenses. In these states the average annual requirement is 50 hours Category 1 CME credit.

STATE STUDY COMMISSION RECOMMENDS LIMIT ON SPENDING FOR NEW MEDICAL PROJECTS

A special study commission established last year by the General Assembly on January 25 approved a report calling for an annual limit on new hospital projects.

The commission's chairman, Rep. Anthony J. Carcieri, D., Warwick, plans to introduce legislation which would implement the commission's recommendations.

The commission -- organized in response to a report that area hospitals planned capital improvement projects totaling \$109 million over the next few years -- recommended that hospitals, Blue Cross, and the Rhode Island Budget Office set a dollar limit on new construction and medical programs. The Health Services Council, which now is responsible for evaluating individual projects for the Rhode Island Dept. of Health, could approve only those projects which meet or are below the dollar limitation.

The Hospital Association of Rhode Island (HARI) has objected to the commission's recommendations. RIMS officers and staff met with HARI officials in late January about the issue.

PRACTICE PROBLEM OF THE MONTH:

HOW DOES MEDICARE CALCULATE PHYSICIAN REIMBURSEMENT?

Medicare pays 80 per cent of the "reasonable charge" for covered physicians' services billed on a fee-for-service basis after the patient pays an annual deductible.

The "reasonable charge" is the lowest of:

- your "customary charge" for a particular service. This is the median charge or the amount that would cover your charges at least half the time the service is performed.
- the "prevailing charge" for a medical service in your community. It is calculated at the 75th percentile of customary charges for each medical service made by physicians of comparable skill and training. This figure is weighted by the number of times the service is performed. As a result, the Medicare carrier has developed thousands of prevailing fees based on the medical service, its frequency, and the physician's specialty.
- your actual charge on a given claim (if lower).
- the charge which the Medicare carrier pays under its own policies.

Your "fee profile" of customary charges and the community-wide screens of prevailing charges are updated once a year on July 1 based on information about your and other physicians' charges during the previous calendar year. As an example, the customary and prevailing charges for the year July 1, 1982 through June 30, 1983 are based on fees actually charged during the calendar year 1981.

The calculation of prevailing rates for a particular service is further confused by the so-called "economic index." Established by P.L. 92-603 (the same law which created the PSRO mechanism), the "economic index" sets a maximum limit for increases in "prevailing charges." For the current year (July 1, 1982 through June 30, 1983), the Health Care Financing Administration has set the economic index at 8.88 per cent. In other words, the increase in prevailing charges for a particular service cannot be more than 8.88 per cent higher than the previous year -- regardless of the actual increase. The AMA has sought unsuccessfully to obtain a rescission of this provision.

Medicare's "reasonable" charge" will almost always be less than a physician's actual charge at any given time for two reasons. First, the calculations of both "customary" and "prevailing" charges are based on data which are 12 to 18 months old. Second, the use of the "economic index" limits the rate of increase for prevailing charges. Further limits are on the horizon. Under the Administration's 1984 budget proposal, physician reimbursement under Medicare would be frozen at 1983 levels. In effect, this freeze would actually reflect physicians' 1982 charges. Physicians should make certain that their fee profiles are as current and accurate as possible.

NEXT MONTH: HOW DO I GET INFORMATION ABOUT MY MEDICARE FEE PROFILE?

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Volume 66, Number 3

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Reference: 1. Sheu YS, Ferguson JA, Cooper JR: *Evaluation of the Abuse Liability of Diethylpropion, Phendimetrazine, and Phentermine*, unclassified document, ADAMHA, HHS. Office of Medical and Professional Affairs, NIDA, 1980, pp 10-15.

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WARNINGS: Tolerance to the anorectic effect usually develops within a few weeks. When this occurs, the recommended dose should be discontinued. Phendimetrazine tartrate may impair the ability of the patient to engage in potentially hazardous activities such as operating machinery or driving a motor vehicle; the patient should therefore be cautioned accordingly.

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Abuse of amphetamines and related drugs may be associated with intense psychological dependence and severe social dysfunction. There are reports of patients who have increased the dosage to many times that recommended. Abrupt cessation following prolonged high-dosage administration results in extreme fatigue and mental depression; changes are also noted on the sleep EEG, manifestations of chronic intoxication with anorectic drugs include severe dermatoses, marked insomnia, irritability, hyperactivity, and personality changes. The most severe manifestation of chronic intoxication is psychosis, often clinically indistinguishable from schizophrenia.

USAGE IN PREGNANCY: The safety of phendimetrazine tartrate in pregnancy and lactation has not been established. Therefore, phendimetrazine tartrate should not be taken by women who are or may become pregnant.

USAGE IN CHILDREN: Phendimetrazine tartrate is not recommended for use in children under 12 years of age.

PRECAUTION: Caution is to be exercised in prescribing phendimetrazine tartrate for patients with even mild hypertension. Insulin requirements in diabetes mellitus may be altered in association with the use of phendimetrazine tartrate and the concomitant dietary regimen. Phendimetrazine tartrate may decrease the hypotensive effect of guanethidine. The least amount feasible should be prescribed or dispensed at one time in order to minimize the possibility of overdosage.

ADVERSE REACTIONS: Cardiovascular: Palpitation, tachycardia, elevation of blood pressure.

Central Nervous System: Overstimulation, restlessness, dizziness, insomnia, euphoria, dysphoria, tremor, headache; rarely psychotic episodes at recommended doses.

Gastrointestinal: Dryness of the mouth, unpleasant taste, diarrhea, constipation, other gastrointestinal disturbances.

Allergic: Urticaria.

Endocrine: Impotence, changes in libido.

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Fatigue and depression usually follow the central stimulation. Cardiovascular effects include arrhythmias, hypertension or hypotension and circulatory collapse. Gastrointestinal symptoms include nausea, vomiting, diarrhea, and abdominal cramps. Fatal poisoning usually terminates in convulsions and coma. Management of acute phendimetrazine tartrate intoxication is largely symptomatic and includes lavage and sedation with a barbiturate. Experience with hemodialysis or peritoneal dialysis is inadequate to permit recommendation in this regard. Acidification of the urine increases phendimetrazine tartrate excretion. Intravenous phentolamine (Regitine) has been suggested for possible acute, severe hypertension, if this complicates phendimetrazine tartrate overdosage.

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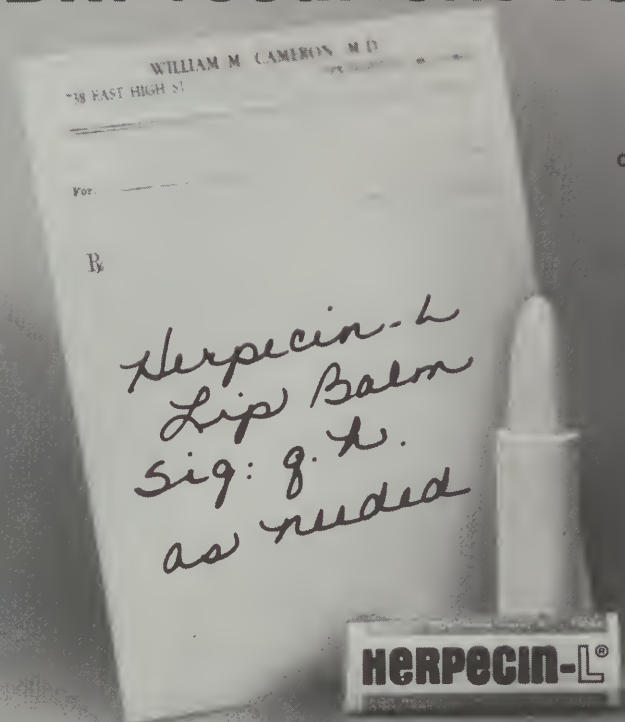
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COVER:

A graphic depiction of the proposed Capitol Center project. The Medical Society Library appears in the upper left foreground below the Veterans' Memorial Building

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For Oral Use

(nifedipine)

INDICATIONS AND USAGE: I. **Vasospastic Angina:** PROCARDIA (nifedipine) is indicated for the management of vasospastic angina confirmed by any of the following criteria: 1) classical pattern of angina at rest accompanied by ST segment elevation, 2) angina or coronary artery spasm provoked by ergonovine, or 3) angiographically demonstrated coronary artery spasm. In those patients who have had angiography, the presence of significant fixed obstructive disease is not incompatible with the diagnosis of vasospastic angina, provided that the above criteria are satisfied. PROCARDIA may also be used where the clinical presentation suggests a possible vasospastic component but where vasospasm has not been confirmed, e.g., where pain has a variable threshold on exertion or in unstable angina where electrocardiographic findings are compatible with intermittent vasospasm, or when angina is refractory to nitrates and/or adequate doses of beta blockers.

II. **Chronic Stable Angina (Classical Effort-Associated Angina):** PROCARDIA is indicated for the management of chronic stable angina (effort-associated angina) without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or organic nitrates or who cannot tolerate those agents.

In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in those patients are incomplete.

Controlled studies in small numbers of patients suggest concomitant use of PROCARDIA and beta blocking agents may be beneficial in patients with chronic stable angina, but available information is not sufficient to predict with confidence the effects of concurrent treatment, especially in patients with compromised left ventricular function or cardiac conduction abnormalities. When introducing such concomitant therapy, care must be taken to monitor blood pressure closely since severe hypotension can occur from the combined effects of the drugs. (See Warnings.)

CONTRAINDICATIONS: Known hypersensitivity reaction to PROCARDIA.

WARNINGS: **Excessive Hypotension:** Although in most patients, the hypotensive effect of PROCARDIA is modest and well tolerated, occasional patients have had excessive and poorly tolerated hypotension. These responses have usually occurred during initial titration or at the time of subsequent upward dosage adjustment, and may be more likely in patients on concomitant beta blockers.

Severe hypotension and/or increased fluid volume requirements have been reported in patients receiving PROCARDIA together with a beta blocking agent who underwent coronary artery bypass surgery using high dose fentanyl anesthesia. The interaction with high dose fentanyl appears to be due to the combination of PROCARDIA and a beta blocker, but the possibility that it may occur with PROCARDIA alone, with low doses of fentanyl, in other surgical procedures, or with other narcotic analgesics cannot be ruled out.

Increased Angina: Occasional patients have developed well documented increased frequency, duration or severity of angina on starting PROCARDIA or at the time of dosage increases. The mechanism of this response is not established but could result from decreased coronary perfusion associated with decreased diastolic pressure with increased heart rate, or from increased demand resulting from increased heart rate alone.

Beta Blocker Withdrawal: Patients recently withdrawn from beta blockers may develop a withdrawal syndrome with increased angina, probably related to increased sensitivity to catecholamines. Initiation of PROCARDIA treatment will not prevent this occurrence and might be expected to exacerbate it by provoking reflex catecholamine release. There have been occasional reports of increased angina in a setting of beta blocker withdrawal and PROCARDIA initiation. It is important to taper beta blockers if possible, rather than stopping them abruptly before beginning PROCARDIA.

Congestive Heart Failure: Rarely, patients, usually receiving a beta blocker, have developed heart failure after beginning PROCARDIA. Patients with tight aortic stenosis may be at greater risk for such an event.

PRECAUTIONS: **General:** **Hypotension:** Because PROCARDIA decreases peripheral vascular resistance, careful monitoring of blood pressure during the initial administration and titration of PROCARDIA is suggested. Close observation is especially recommended for patients already taking medications that are known to lower blood pressure. (See Warnings.)

Peripheral edema: Mild to moderate peripheral edema, typically associated with arterial vasodilation and not due to left ventricular dysfunction, occurs in about one in ten patients treated with PROCARDIA. This edema occurs primarily in the lower extremities and usually responds to diuretic therapy. With patients whose angina is complicated by congestive heart failure, care should be taken to differentiate this peripheral edema from the effects of increasing left ventricular dysfunction.

Drug Interactions: Beta-adrenergic blocking agents: (See Indications and Warnings.) Experience in over 1400 patients in a non-comparative clinical trial has shown that concomitant administration of PROCARDIA and beta-blocking agents is usually well tolerated, but there have been occasional literature reports suggesting that the combination may increase the likelihood of congestive heart failure, severe hypotension or exacerbation of angina.

Long-acting nitrates: PROCARDIA may be safely co-administered with nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.

Digitalis: Administration of PROCARDIA with digoxin increased digoxin levels in nine of twelve normal volunteers. The average increase was 45%. Another investigator found no increase in digoxin levels in thirteen patients with coronary artery disease. In an uncontrolled study of over two hundred patients with congestive heart failure during which digoxin blood levels were not measured, digitalis toxicity was not observed. Since there have been isolated reports of patients with elevated digoxin levels, it is recommended that digoxin levels be monitored when initiating, adjusting, and discontinuing PROCARDIA to avoid possible over- or under-digitalization.

Carcinogenesis, mutagenesis, impairment of fertility: When given to rats prior to mating, nifedipine caused reduced fertility at a dose approximately 30 times the maximum recommended human dose.

Pregnancy: Category C. Please see full prescribing information with reference to teratogenicity in rats, embryotoxicity in rats, mice and rabbits, and abnormalities in monkeys.

ADVERSE REACTIONS: The most common adverse events include dizziness or light-headedness, peripheral edema, nausea, weakness, headache and flushing each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0.5%. Syncopal episodes did not recur with reduction in the dose of PROCARDIA or concomitant antianginal medication. Additionally, the following have been reported: muscle cramps, nervousness, dyspnea, nasal and chest congestion, diarrhea, constipation, inflammation, joint stiffness, shakiness, sleep disturbances, blurred vision, difficulties in balance, dermatitis, pruritus, urticaria, fever, sweating, chills, and sexual difficulties. Very rarely, introduction of PROCARDIA therapy was associated with an increase in anginal pain, possibly due to associated hypotension.

In addition, more serious adverse events were observed, not readily distinguishable from the natural history of the disease in these patients. It remains possible, however, that some or many of these events were drug related. Myocardial infarction occurred in about 4% of patients and congestive heart failure or pulmonary edema in about 2%. Ventricular arrhythmias or conduction disturbances each occurred in fewer than 0.5% of patients.

Laboratory Tests: Rare, mild to moderate, transient elevations of enzymes such as alkaline phosphatase, CPK, LDH, SGOT, and SGPT have been noted, and a single incident of significantly elevated transaminases and alkaline phosphatase was seen in a patient with a history of gall bladder disease after about eleven months of nifedipine therapy. The relationship to PROCARDIA therapy is uncertain. These laboratory abnormalities have rarely been associated with clinical symptoms. Cholestasis, possibly due to PROCARDIA therapy, has been reported twice in the extensive world literature.

HOW SUPPLIED: Each orange, soft gelatin PROCARDIA CAPSULE contains 10 mg of nifedipine. PROCARDIA CAPSULES are supplied in bottles of 100 (NDC 0069-2600-66), 300 (NDC 0069-2600-72), and unit dose (10x10) (NDC 0069-2600-41). The capsules should be protected from light and moisture and stored at controlled room temperature 59° to 77°F (15° to 25°C) in the manufacturer's original container.

More detailed professional information available on request.

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LABORATORIES DIVISION
PFIZER INC.

"I can do things that I couldn't do for 3 yrs. including joining the human race again."



*Quotes from an unsolicited
letter received by Pfizer from an
angina patient.
While this patient's experience
is representative of many
unsolicited comments received,
not all patients will respond to
Procordia nor will they all
respond to the same degree.*

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*"My daily routine consisted of
sitting in my chair trying to stay alive."*

*"My doctor switched me to
PROCARDIA[*] as soon as it became
available. The change in my condition
is remarkable."*

*"I shop, cook and can plant
flowers again."*

*"I have been able to do volunteer
work...and feel needed and useful
once again."*

PROCARDIA can mean the return to a more normal life for your patients—having fewer anginal attacks, taking fewer nitroglycerin tablets, doing more, and being more productive once again.

Side effects are usually mild (most frequently reported are dizziness or lightheadedness, peripheral edema, nausea, weakness, headache and flushing, each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0.5%).



for the varied faces of angina

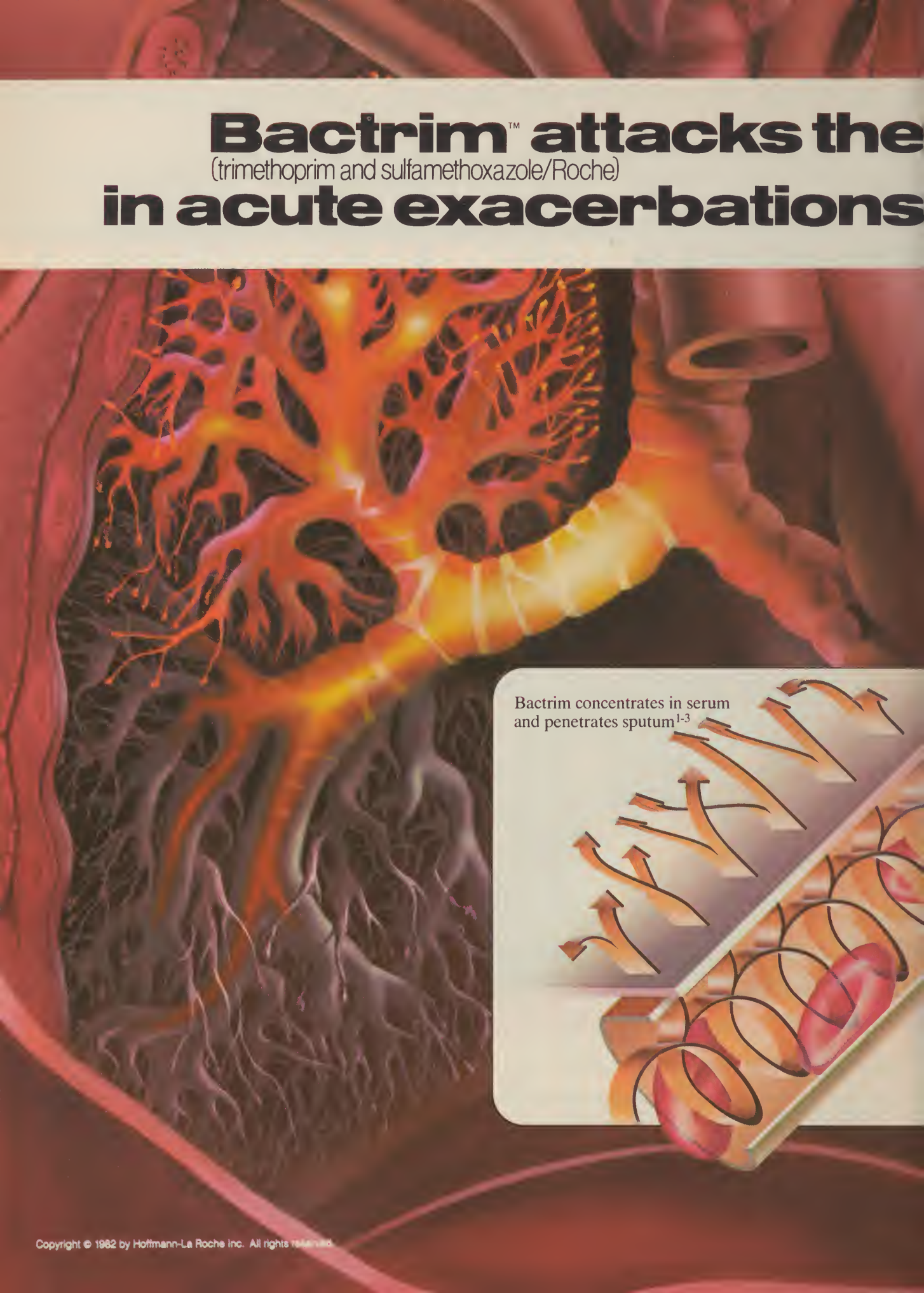
PROCARDIA[®] **(NIFEDIPINE)** Capsules 10 mg

*Procardia is indicated for the management of:

- 1) Confirmed vasospastic angina.
- 2) Angina where the clinical presentation suggests a possible vasospastic component.
- 3) Chronic stable angina without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or nitrates or who cannot tolerate these agents. In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks' duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in these patients are incomplete.

Please see PROCARDIA brief summary on adjoining page.

BactrimTM attacks the (trimethoprim and sulfamethoxazole/Roche) **in acute exacerbations**



Bactrim concentrates in serum
and penetrates sputum¹⁻³

major pathogens of chronic bronchitis*

Bactrim clears sputum of
susceptible bacteria

In sputum cultures from patients with acute exacerbations of chronic bronchitis, *H. influenzae* and *S. pneumoniae* are isolated more often than any other pathogens.^{4,5} One study of transtracheal aspirates from 76 patients with acute exacerbations found that 80% of the isolates were of these two pathogens.⁵

Bactrim is effective *in vitro* against most strains of both *S. pneumoniae* and *H. influenzae*—even ampicillin-resistant strains. And in acute exacerbations of chronic bronchitis involving these two pathogens, sputum cultures taken seven days after a two-week course of therapy showed that Bactrim eradicated these bacteria in 91% (50 of 55) of the patients treated.⁶

Bactrim reduces coughing
and sputum production

In three double-blind comparisons with ampicillin *q.i.d.*, Bactrim DS proved equally effective on all clinical parameters.^{7,9} Bactrim reduced the frequency and severity of coughing, reduced the amount of sputum produced and cleared the sputum of purulence.

Bactrim has the added advantages of *b.i.d.* dosage convenience and a lower incidence of diarrhea than with ampicillin, and it is useful in patients allergic to penicillins.

Bactrim also proved more effective than tetracyclines in 10 clinical trials

involving nearly 700 patients.¹⁰ Overall clinical condition of the patients, changes in sputum purulence, reduction in sputum volume and microbiological clearance of pathogens—all improved more with Bactrim therapy than with tetracyclines. G.I. side effects occurred in only 7% of patients treated with Bactrim compared with 12% of tetracycline-treated patients. (See Adverse Reactions in summary of product information on next page.)

Bactrim is contraindicated in pregnancy at term and nursing mothers, infants under two months of age, documented megaloblastic anemia due to folate deficiency and hypersensitivity.

Bactrim DS. For acute exacerbations of chronic bronchitis in adults* when it offers an advantage over single-agent antibacterials.

References: 1. Hughes DTD, Bye A, Hodder P: *Adv Antimicrob Antineoplastic Chemother* 112:1105-1106, 1971. 2. Jordan GW et al: *Can Med Assoc J* 112:91S-95S, Jun 14, 1975. 3. Beck H, Pechere JC: *Prog Antimicrob Anticancer Chemother* 1:663-667, 1969. 4. Quintiliani R: Microbiological and therapeutic considerations in exacerbations of chronic bronchitis, in *Chronic Bronchitis and Its Acute Exacerbations: Current Diagnostic and Therapeutic Concepts*; Princeton Junction, NJ, Communications Media for Education, Inc., 1980, pp. 9-12. 5. Schreiner A et al: *Infection* 6(2):54-56, 1978. 6. Data on file, Hoffmann-La Roche Inc., Nutley, NJ. 7. Chodosh S: Treatment of acute exacerbations of chronic bronchitis: results of a double-blind crossover clinical trial, in *Chronic Bronchitis and Its Acute Exacerbations: Current Diagnostic and Therapeutic Concepts*. *Op. cit.*, pp. 15-16. 8. Chervinsky P: Double-blind clinical comparisons between trimethoprim-sulfamethoxazole (Bactrim™) and ampicillin in the treatment of bronchitic exacerbations. *Ibid.*, pp. 17-18. 9. Dulfano MJ: Trimethoprim-sulfamethoxazole vs. ampicillin in the treatment of exacerbations of chronic bronchitis. *Ibid.*, pp. 19-20. 10. Medici TC: Trimethoprim-sulfamethoxazole (Bactrim™) in treating acute exacerbations of chronic bronchitis: summary of European clinical experience. *Ibid.*, pp. 13-14.

attacks *H. influenzae*—even
ampicillin-resistant strains



attacks *S. pneumoniae*



**Economical
b.i.d.**

Bactrim™ DS

(160 mg trimethoprim and 800 mg sulfamethoxazole/Roche)

*Due to susceptible organisms. Please see next page for summary of product information.

BactrimTM

(trimethoprim and sulfamethoxazole/Roche)

Before prescribing, please consult complete product information, a summary of which follows:

Indications and Usage: For the treatment of urinary tract infections due to susceptible strains of the following organisms: *Escherichia coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis*, *Proteus vulgaris*, *Proteus morganii*. It is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single effective antibacterial agent rather than the combination. Note: The increasing frequency of resistant organisms limits the usefulness of all antibacterials, especially in these urinary tract infections.

For acute otitis media in children due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over other antimicrobials. To date, there are limited data on the safety of repeated use of Bactrim in children under two years of age. Bactrim is not indicated for prophylactic or prolonged administration in otitis media at any age.

For acute exacerbations of chronic bronchitis in adults due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over a single antimicrobial agent.

For enteritis due to susceptible strains of *Shigella flexneri* and *Shigella sonnei* when antibacterial therapy is indicated.

Also for the treatment of documented *Pneumocystis carinii* pneumonitis.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; patients with documented megaloblastic anemia due to folate deficiency; pregnancy at term; nursing mothers because sulfonamides are excreted in human milk and may cause kernicterus; infants less than 2 months of age.

Warnings: BACTRIM SHOULD NOT BE USED TO TREAT STREPTOCOCCAL PHARYNGITIS. Clinical studies show that patients with group A β -hemolytic streptococcal tonsillopharyngitis have higher incidence of bacteriologic failure when treated with Bactrim than do those treated with penicillin. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

Precautions: General: Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function. Bactrim may prolong prothrombin time in those receiving warfarin; reassess coagulation time when administering Bactrim to these patients.

Pregnancy: Teratogenic Effects: Pregnancy Category C. Because trimethoprim and sulfamethoxazole may interfere with folic acid metabolism, use during pregnancy only if potential benefits justify the potential risk to the fetus.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. **Blood dyscrasias:** Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. **Allergic reactions:** Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. **Gastrointestinal reactions:** Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea, pseudomembranous colitis and pancreatitis. **CNS reactions:** Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. **Miscellaneous reactions:** Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: Not recommended for infants less than two months of age.

URINARY TRACT INFECTIONS AND SHIGELLOSIS IN ADULTS AND CHILDREN, AND ACUTE OTITIS MEDIA IN CHILDREN:

Adults: Usual adult dosage for urinary tract infections—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days. Use identical daily dosage for 5 days for shigellosis.

Children: Recommended dosage for children with urinary tract infections or acute otitis media—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. Use identical daily dosage for 5 days for shigellosis.

For patients with renal impairment. Use recommended dosage regimen when creatinine clearance is above 30 ml/min. If creatinine clearance is between 15 and 30 ml/min, use one-half the usual regimen. Bactrim is not recommended if creatinine clearance is below 15 ml/min.

ACUTE EXACERBATIONS OF CHRONIC BRONCHITIS IN ADULTS:

Usual adult dosage. 1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 14 days.

PNEUMOCYSTIS CARINII PNEUMONITIS:

Recommended dosage: 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.

Supplied: Double Strength (DS) tablets, each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100; Tel-E-Dose* packages of 100; Prescription Paks of 20 and 28. Tablets, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose* packages of 100; Prescription Paks of 40. **Pediatric Suspension,** containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); cherry flavored—bottles of 100 ml and 16 oz (1 pint). **Suspension,** containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); fruit-licorice flavored—bottles of 16 oz (1 pint).



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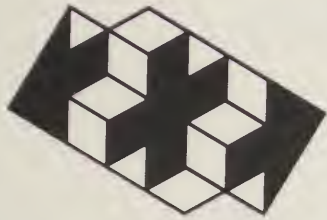
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Surgeon-in-Charge
Division of Orthopaedic Research
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Stephen R. Kaplan, MD
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Diabetes Mellitus — Here and There

ICELAND: A number of Icelandic children born in the month of October were noted to have a high incidence of Type I diabetes. Because of the time relationship, investigation into the mothers' health and habits in the month of December were investigated. A common feature was the large consumption of *cured and smoked* mutton, which is the traditional holiday fare in Iceland at the Christmas season. Nitrites and nitrates under the action of both *curing and smoking*, but not by either singly, are known to produce nitrosamines, which are considered to be the offending agent in the fetus, presumably destroying islet cells.

SAMOA: An exaggerated weight gain exceeding that of any "racial group studied" occurs in Samoan women who emigrate, whether it be to Hawaii, San Francisco, or American Samoa. The average weight of middle-aged Samoan women in Hawaii is 90 kilograms (198 pounds), and 100 kilograms (220 pounds) in San Francisco. Associated with this high mean weight is the highest rate of adult onset diabetes, and the highest death rate for any population studied.

Reports from two geographically separate loca-

tions illustrate current concepts in diabetes mellitus. Generally speaking, two types: Type I, insulin dependent due to "destroyed" or inadequate numbers of islet cells in the pancreas; and Type II, associated with obesity and affecting insulin-fat metabolism. The Samoan results also indicate the high genetic potential for excessive weight, which practicing physicians know is the limiting factor in effective weight control. The importance of nitrosamines, a product of nitrate and nitrite conversions, have been indicted for a number of conditions, and have been implicated in some forms of cancer development. Although these relationships in many instances are tenuous, perhaps we could paraphrase the old adage that "where there is smoke, there is fire" to "where there is smoke there are nitrosamines" with all the implications of the same.

All is grist that comes to the physician's mill. Random reports from isolated parts of the world in this instance underline more conventionally discovered truths in a most interesting manner.

Robert V. Lewis, MD

References

- New Scientist 96:1333, 25 Nov 82
- New Scientist 96:1334, 2 Dec 82

No More Chicken Soup?

Early in 1983 a weapon against the common cold, reputedly far more effective than chicken soup, hot toddies, or vitamin C, will be available. A group of medical technologists at the Weizmann Institute of Science in Israel has developed a device that utilizes hot moist air to banish the rhinitis, sneezing, and miseries caused by the common cold virus.

Trials conducted on 900 patients over a two-year period indicate a high degree of effectiveness. The appliance, called the Rhinotherm, delivers jets of moist air heated to a temperature of 43°C (107°F) to the nasal passages. Professor Aharon Yerushalmi, a biologist with a background in applied technology and physics, utilized a principle promulgated by French Nobel Laureate André Lwoff that viruses cannot survive in high temperatures. The instrument bombards the nasal passages with steam, which weakens the viral invaders so that they cannot multiply. The symptoms magically disappear. One 30-minute application will permanently relieve some patients, while others will require two

or more applications. Some have been free of cold symptoms for a second year.

Patients aged 18 to 50 years have responded with a cure rate of 72 per cent within 24 hours and at one week. The reported failure rate of 26 per cent has been attributed to primary or secondary bacterial infection.

A puzzling unexpected dividend has been the effectiveness of the Rhinotherm in arresting the symptoms of nasal allergies, including hayfever.

The device, which weighs 3.5 Kilos (7 pounds) and is box-shaped, will be marketed for \$300 to \$350.* It contains distilled water which is heated electrically, and delivers steam through two small nozzles which are held under the nose.

The problem of colds is less pervasive in semi-tropical Israel than in northern climates.

Hence, it will be most interesting to learn whether this surprisingly simple device can alleviate the scourge of our harsh New England winters.

Seebert J. Goldowsky, MD

* Rhinotherm, produced at Kibbutz Sereni, near Tel Aviv, Israel.

The "Ripple Effect": The Society's Impact on the Community at Large



Looking out for your interests as a practicing physician before government agencies, private groups and the media in Rhode Island is one of the most important and least publicized functions of the Rhode Island Medical Society (RIMS). The cover of this issue of the *Journal* is a view of the neighborhood of the Medical Society Library as it will appear when the capitol center project is completed. The Society's activities on your behalf, however, extend far beyond the lawn of the state capitol. Over the years, RIMS members have presented your concerns (and those of your patients) to liaison groups ranging in scope from the Rhode Island Nurses' Association to a legislative study committee charged with assessing telephone devices for the hearing-impaired.

An understanding of these activities and their functions is important because:

- 1) Contact with outside groups increases the Society's effectiveness. It provides a method of exchanging information, improving understanding and facilitating cooperation. As an example, physicians, lawyers, and labor all are concerned about a 1982 law which links physician reimbursement for worker's compensation cases to the Medicare fee schedule. Because of labor's obvious interest in the issue, we believe that a close working relationship with labor for the present will result in a better chance for remedial legislation. The Society will coordinate physician participation to enable Medicine to speak with a unified voice. Toward that end, we already have met with representatives of the specialty groups especially affected by the revised worker's compensation rates.
- 2) Outside contacts permit the Society to respond quickly to changing circumstances when a response by organized medicine is appropriate. A recent example is the decision of the House of Delegates to participate in the development of a physician directory. The directory will be produced at no cost to RIMS, and physicians will participate on a voluntary basis. The action of the House stemmed from requests by the elderly and other interested groups speaking through the Statewide Health Coordinating Council (SHCC).
- 3) These interactions enhance our image in the community. The Society has a hard-earned reputation for credibility because of its willingness to listen to community groups concerned about health matters.
- 4) Regular contact with other groups provides both an opportunity and a challenge. The Society has an



Melvin D. Hoffman, MD

opportunity to influence the decision-making process regarding many issues which affect your practice: to hear, interpret, and convey your concerns as a practicing physician. The challenge is to be sensitive to community interests and respond quickly and accurately to inquiries about the positions of organized medicine.

- 5) Many public and private groups seek continuing relationships with the Rhode Island Medical Society, and some — such as the Board of Examiners in Medicine — are required by law to establish liaison. The President, whose responsibilities are delineated in the by-laws, serves as the focal point in many of these relationships. He is assisted by the officers, staff and members of the Society who donate their time and expertise to serve as liaison members.

A brief discussion of the Society's liaison with five groups will serve to illustrate our impact on the community at large. Our liaison with state government is frequent and often the most visible activity of the Society. Although officers and members have often testified on health-related bills, our contacts with government are not limited to hearing rooms. We frequently have consulted with the governor, representatives of the Rhode Island Department of Health, and other elected or appointed officials. This communication is a reciprocal process. RIMS officers and staff often are asked "how the doctors will respond" to a particular proposal. Our answers are considered care-

fully and given thoughtfully. In cases where no policy exists — such as with the physician directory — the House of Delegates is consulted for guidance.

A second major concern relates to hospitals. Physicians' relationships with hospitals have become crucial in these days on increasingly burdensome requirements of the Joint Commission on the Accreditation of Hospitals, burgeoning technological advances, increased pressures to contain medical costs, and changing medical staff relationships. We have continued an active relationship with the Hospital Association of Rhode Island (HARI) begun under Dr. Charles Millard. The officers and staff of the Society met with their HARI counterparts in late January, for example, to discuss a state proposal which would limit capital expenditures.

Liaison with the Brown University Program in Medicine began in 1972. As far as I can see, this has not yet led to a significant understanding or perception of mutual needs. We can only continue our efforts. The development of new sections within the AMA gives representation to medical schools and hospital staffs. It is our hope, and that of the AMA, that this will lead to better understanding of the needs of these groups and to improved understanding within the entire fabric of organized medicine. A recent re-activation of liaison with the Brown University Program in Medicine indicated to the Society's representatives that there is still a long way to go. We shall continue to make contact and to strive to develop some sense of mutual trust and understanding. We need the support and participation of all physicians to speak with a single voice, while recognizing that there are factions within the Society having special interests.

The former adversary relationship of the Society

with professional liability insurance carriers has improved considerably. The Joint Underwriting Association enjoys a strong position and serves the state's physicians well during a period of crisis. As the result of concerted efforts by both sides, discussions about rate increases and other sensitive issues take place in an atmosphere of greater understanding. Both sides benefit from this improved cooperation.

The recent legal separation of the Society from Blue Cross and Blue Shield of Rhode Island provides an opportunity to examine a fifth type of liaison activities with third-party payors. We are currently studying the problems of health insurance — relative to both physicians and patients — and shall make recommendations to the House of Delegates.

At last count, the Society maintained liaison with 26 identifiable groups. Some of the liaison activities are limited to providing expertise on specific issues (such as telephone devices for the elderly) while others require years of effort that may be frustrating, but often is gratifying.

Over the years, members of the Society have sat through numerous committee meetings, written countless reports, and responded with carefully considered recommendations — all in an effort to protect your interests and those of your patients. One of my most difficult tasks as President is the identification of members with special expertise, so that we can use their talents appropriately. A list of current liaison activities appears in the table. If you have any special interests and would like to serve your Society, please call 331-3207 and let us know.

Melvin D. Hoffman, MD

RIMS LIAISON FUNCTIONS

Rhode Island Department of Health

State Health Plan
Certificate of Need Advisory Board
Nurse Study Group
Office of Health Promotion
Statewide Health Coordinating Council
Continuity of Care Committee
Emergency Medical Services
Division of Drug Control
Child Health
Division of Professional Regulation
Cancer Control Program
Medical Examiners' Commission

Governor's Office

Commission on Aging
Commission on Dementia

State Boards

Board of Examiners in Medicine
Board of Medical Review

Board of Registration of Physician's Assistants
Board of Registration of Nursing Home Administrators
Ambulance Services Coordinating Board

Legislative

1981 — Home Health Commission
1982 — Capital Expenditures Commission
1983 — Commission to Study Plan 65
Commission to Study Telephone Devices for the
Hearing-Impaired

Other

Hospital Association of Rhode Island
SEARCH
Health Planning Council
Blue Cross/Blue Shield
Joint Underwriting Association
American Cancer Society
RIPSRO
Association of Home Health Agencies
Rhode Island Nurses Association

Case Record: Rhode Island Hospital

Maurice M. Albala, MD
Thomas Wachtel, MD
George Meissner, MD
David Williams, MD, Editors

Presentation of Case

This was the third Rhode Island Hospital admission for this 72-year-old female hairdresser, who presented with shortness of breath, cough, and sinusitis. The patient was in good health until three and one-half years prior to admission, when a Philadelphia chromosome positive chronic myelogenous leukemia (CML) was diagnosed. White blood count (WBC) at that time was 43,600, hemoglobin 10 gm per cent, reticulocyte count 11 per cent, and platelet count 270,000. Leukocyte alkaline phosphatase score was 2 units, serum muramidase 81 units, and urine muramidase 3 units. Bone marrow biopsy showed marked granulocytic hyperplasia with some areas of fibrosis and absent iron stores. The patient was treated with busulfan from the time of diagnosis to three months prior to admission with good clinical response.

Six months prior to admission, WBC was 64,000 with 54 per cent polymorphonuclear leukocytes (polys), 15 per cent bandforms, 1 per cent lymphocytes, 2 per cent monocytes, 1 per cent eosinophils, 8 per cent basophils, 10 per cent metamyelocytes, 5 per cent myelocytes, 4 per cent blastforms, and 2 nucleated red blood cells (RBCs). Hematocrit was 36 per cent, platelet count was 418,000. Cytogenetics of the bone marrow revealed new isochromy 17. She was treated with increased doses of busulfan. One month prior to admission she complained of fatigue and dyspnea. Hemoglobin was 6 gm per cent, and she was transfused with seven units of packed RBCs. On admission to the hospital blood urea nitrogen (BUN) was 43 mg/dl, and creatinine 2.1 mg/dl. Ultrasound showed normal-sized kidneys.

The patient had been treated for hypertension for ten years with hydrochlorothiazide 50 mg daily and α -methyldopa 250 mg twice daily (bid). She had had three gouty attacks in the past, which were successfully treated with colchicine and allopurinol. She was exposed to hair dyes and waving solutions in her work as a hairdresser. She had no radiation exposure. She drank alcohol and smoked cigarettes occasionally. Family history was unrevealing.

Physical examination on admission revealed a blood pressure of 110/60 mmHg, a pulse of 110, respiratory rate of 24, and temperature of 99°F. The patient was a cachectic white female in mild respiratory distress. Fine rales were heard in both lung fields with decreased breath sounds in the left mid lung field. Cardiovascular examination revealed an S4, normal S1 and S2; a grade II/VI systolic murmur was heard at the left sternal border. The abdomen was soft with normoactive bowel sounds and no hepatosplenomegaly. There was 2 mm pitting edema of the lower extremities. Neurologic examination revealed no neurologic deficits.

On admission to the hospital white count was 17,000 with 50 per cent polys, 6 per cent bands, 10 per cent lymphocytes, 2 per cent mononuclears, 12 per cent basophils, 9 per cent myelocytes, 1 per cent metamyelocytes, and 10 per cent blasts. Hemoglobin was 7.6 gm per cent, MCV 87. Red cells were hypochromic and microcytic with moderate polychromasia. Teardrop cells were seen. Platelet count was 78,000/cumm. EKG showed a mild sinus tachycardia with normal conduction times. QRS voltage was low. Chest x-ray examination revealed fluffy and patchy densities

involving both lungs. The cardiac size was slightly enlarged.

The patient was initially treated for congestive heart failure. She became febrile to 102.4°F on the second hospital day. On the third hospital day administration of tobramycin and ticarcillin were started. Trimethoprim-sulfa was added the following day. Arterial blood gases were pH 7.48, PO₂66, tCO₂19 on 3L O₂ via nasal prongs. On the fifth hospital day, the patient complained of pleuritic chest pain, and her respiratory rate was 42. The patient's respiratory function deteriorated. She required intubation, and erythromycin was added. Chest x-ray film showed left lower lobe consolidation with bilateral interstitial pattern. Sputum culture was positive on two occasions for *Candida albicans*. A bone marrow examination showed marked myelofibrosis with no blastic infiltration. On the seventh hospital day, ascites was noted. Amphotericin was added on the ninth hospital day. Acid fast stain of bronchial secretions was negative. Serologic studies were negative for *Aspergillus*, histoplasmosis, coccidiomycosis, and *Candida*. CMV titer was IgG < 32, IgM < 4. Toxoplasmosis titer < 1:64, IgG < 64, IgM < 4. Legionnaires' disease titer was < 32. No virus was isolated. Respiratory function worsened and positive end expiratory pressure (PEEP) was added on the tenth hospital day. Over the next four days, the patient became progressively hypotensive and hypothermic, and died on the fourteenth hospital day.

Differential Diagnosis

Dr. Donald Sheeley:* To summarize, the patient was a 72-year-old female with a well-documented CML. On the present admission, she was in moderate respiratory distress with fever. Over the next three days she defervesced on combined antibiotics and was afebrile until the seventh hospital day, when a fever to 103°F occurred, followed by a week of gradually worsening respiratory failure and death.

The relatively benign phase of CML (Table 1) gives way to either an accelerated period of disease or a phase known as blast crisis (Table 2). It is difficult to define exactly when the blast crisis begins, but this is characterized by increasing numbers of blasts in the peripheral blood and bone marrow, by progressive anemia and thrombocytopenia, and by a lack of response to therapy. During blast crisis extramedullary tumors, or

Table 1. CML: Characteristic Findings

- 1. Philadelphia chromosome in 90% Ph¹ (22q-) usually absent in other MPD persists during remission and blast crisis
- 2. Increased myeloid mass in marrow and extramedullary sites
- 3. Splenomegaly in 90-95%
- 4. Thrombocytosis in 35%
- 5. Increased metabolic rate
- 6. Low neutrophil alkaline phosphatase
- 7. Hyperuricemia
- 8. Elevated B₁₂
- 9. Acute phase after 1-4 years

Table 2. CML: Acute Phase Indicators

- Increasing basophilia or eosinophilia
- Worsening anemia or thrombocytopenia
- > 10% peripheral myeloblasts
- "Hiatus Leukemicus"
- Additional chromosome abnormalities
- Fever
- Lysozymuria
- Infiltration of skin, bone, soft tissue or nodes
- Orbital chloromas

chloromas, can develop, especially in bone, lymph nodes, or skin. Most of these present as individual or multiple nodules in various organs. Although they have been known to involve the ovaries, kidneys, and other abdominal organs, a recent study did not record any instances of associated ascites.

When blast crisis per se occurs in CML, the hematologic picture is like that of acute myelogenous leukemia (AML), with about 70 per cent of patients having cells with granulocytic morphology, and about 30 per cent of patients having cells with lymphocytic morphology. Specific lymphoblast markers such as terminal deoxynucleotidyl transferase (TDT), and the antigen of the common acute lymphocytic leukemias (CALLA) are present. The granulocytic type of blast crisis is characterized by being refractory to chemotherapy, but the lymphocytic type of blast crisis shows about a 50 per cent response rate to therapy with agents similar to those used for common ALL.

Blast crisis probably results from the further genetically abnormal evolution of the clone of neoplastic cells. In about 80 per cent of cases, additional chromosomal abnormalities occur in this clone as blast crisis develops. The most frequent abnormalities found during this period are double Philadelphia chromosomes, trisomy 8, and isochromy 17, as found in this patient.

* Assistant Physician at Rhode Island Hospital

Myleran® (busulfan) is the alkylating agent most commonly used in the treatment of CML. In about 75 per cent of patients a remission may be achieved, as defined by regression of organomegaly and return to near-normal levels of leukocytes in the peripheral blood. Anemia and thrombocytopenia may frequently improve with this treatment as well.

Bone marrow biopsy showed marked granulocytic hyperplasia, which is characteristic of CML, with some areas of fibrosis and absent iron stores. The marrow fibrosis is found in about one-third of CML patients, but the absence of



Figure 1. Reticulonodular densities involving both lungs.

iron stores is not characteristic and suggests an additional disorder. The stools were negative for blood, and there was no hematuria, but I must suspect either previous blood loss, perhaps through the gastrointestinal tract or inadequate iron intake over a period of time. The patient is described as cachectic, and her food intake may have been poor; or a blood-losing gastrointestinal lesion may have been present, related to the patient's ascites found later in the course of her disease.

Six months prior to admission 4 per cent blasts were noted, and bone marrow revealed new isochromy 17. This chromosomal change appears to mark a further genetic deterioration of the patient's condition. Her hemoglobin, which was about 12 gm per cent, dropped later to 6 gm per cent, and she complained of fatigue and dyspnea. This worsening hemoglobin may have been secondary to leukemia marrow infiltration, from busulfan therapy, or from a possible occult source of GI blood loss.

She had three episodes of gout in the past and had been treated with colchicine and allopurinol. Uric acid production is increased 2-3 fold in patients with CML, and gout is not uncommon.

On admission to the hospital her heart rate was 110, and she was in mild respiratory distress. Fine rales were heard bilaterally on the right side and breath sounds were decreased in the left mid-field. I suspect the breath sounds were decreased because of early consolidation, but the chest x-ray study does show elevation of the left main-stem bronchus consistent with an extrinsic mass, possibly an enlarged left atrium or enlarged perihilar nodes. The patient's systolic murmur may have been a flow murmur related to the anemia, or it may relate to mitral valve disease. In this case the left atrial enlargement would be consistent with it and may have contributed to the patient's development of peripheral edema when the hemoglobin dropped to lower levels.

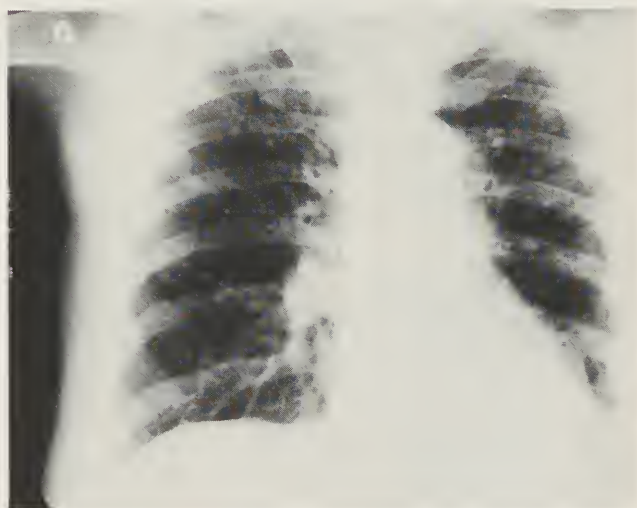


Figure 2. Increased interstitial markings in both lungs.

The combination of slightly enlarged heart size on chest x-ray study with low voltage in the EKG and peripheral edema are suggestive of constrictive pericarditis. However, on physical examination, no neck vein distention was noted and no hepatomegaly was found.

The low QRS voltage may also suggest pericardial effusion. Other possibilities such as chronic obstructive pulmonary disease (COPD), pleural effusion, and hypothyroidism are unlikely in this patient. A single report in the *British Medical Journal* in 1966 describes a patient with a prolonged PR interval and low voltage EKG which occurred during an episode of the well-described Addisonian syndrome of busulfan therapy and resolved with discontinuation of the drug.

The chest x-ray films taken early in the clinical course, showed a mixed, interstitial-alveolar picture characterized by reticulonodular densities diffusely and at least one large nodular density in the right upper lobe (Figure 1). An older chest film shows some increased interstitial markings, possibly related to chronic fibrosis associated with busulfan (Figure 2).

The differential diagnosis of pneumonic infiltrates and fever in the compromised host is extensive. Patients with chronic myelogenous leukemia are not quite as susceptible to the development of unusual infections as are patients with acute leukemias. However, since this patient has findings suggestive of the accelerated phase with increasing blasts and isochromy 17, she may be considered a compromised host. Table 3 lists the differential diagnosis of the abnormal chest x-rays in a compromised host.

Table 3. Compromised Host, Abnormal Chest X-ray and Fever: Differential Diagnosis

-
- A. Extension of Primary Disease
 - Leukemia
 - B. Common Pneumonias
 - Gram-positive
 - Gram-negative
 - Tuberculosis
 - Viral
 - C. Pathologic Fungi
 - Histoplasmosis
 - Coccidioidomycosis
 - Cryptococcosis
 - Actinomycosis
 - Blastomycosis
 - D. Opportunistic Fungi
 - Candidiasis
 - Aspergillosis
 - Phycomycosis
 - E. Parasites
 - Pneumocystis carinii
 - Strongyloides
 - Toxoplasmosis
 - F. Uncommon Bacteria
 - Actinomycosis
 - Nocardiosis
 - G. Cytomegalovirus & Herpesviruses
 - H. Drug Reactions
 - Busulfan
 - Cytoxan
 - Methotrexate
 - Bleomycin
-

Leukemia infiltrates themselves may occur in the lungs, but usually the sludging in the pulmonary vasculature occurs when the white count is very high, usually above 100,000.

In patients with acute leukemia, organisms such as *Staphylococcus*, *Pseudomonas*, *E. Coli*,

Klebsiella, and *Proteus* are among the most common causes of bacterial sepsis and pneumonia. However, in this patient neither blood cultures nor sputum cultures suggested any of these organisms, and ticarcillin and tobramycin would be expected to affect the overwhelming majority of these strains.

Tuberculosis should also be considered in the differential diagnosis. The pattern on the chest x-ray film is reticulonodular, and there are some small miliary nodules on the admission film, as well as a larger nodule in the right upper lobe. This is an appearance consistent with tuberculous pneumonia. The finding of a slightly enlarged heart and low voltage may be consistent with a pericardial effusion from tuberculous pericarditis. Half of all patients with tuberculous pericarditis have pulmonary or disseminated tuberculosis (TB), and the most common mechanism of spread to the pericardium is by retrograde extension from paratracheal, peribronchial, and mediastinal lymph nodes. The presence of ascites and fever might have led to a diagnostic paracentesis; though culture yields are low, a mononuclear leukocytosis might have suggested a tuberculous serositis. The culture yield may be increased with cultures of peritoneal tissue obtained by biopsy. With peritoneal tuberculosis, other serous membranes such as pleura and pericardium are frequently involved. I am suspicious that tuberculosis may have played a role in this patient's outcome. The acid fast stain of the sputum was negative, but multiple sputum samples may be necessary for detection of the tubercle bacillus. One study of 63 patients with miliary tuberculosis showed that only a surprisingly low 30 per cent of sputum samples yielded acid-fast bacilli, and only 63 per cent were culture-positive.

One rather detailed study of the association of TB and chemotherapy was reported from the Memorial Hospital in New York. The study showed that about one-third of the patients with TB presented prior to chemotherapy, about one-half presented within 18 months of their initial chemotherapy, and one-sixth presented after 18 months post-chemotherapy. About 70 per cent had pulmonary lesions, the disease tended to be extensive and severe, and dissemination was associated with a recent course of chemotherapy.

Cytomegalovirus can cause a severe pneumonia in Hodgkin's disease patients who receive radiation to the mediastinum. These pneumonias are sometimes dual infections, with *Pneumocystis carinii* as the simultaneous infecting agent. Patients receiving cytotoxic agents also have an in-

creased risk of developing an extensive pneumonia with influenza virus; however, once again the viral cultures did not support such an infection.

Pathologic fungi that have been associated with pneumonia in the compromised host include *Histoplasma capsulatum*, *Coccidioides immitis*, *Cryptococcus neoformans*, and *Blastomycetes*. Histoplasmosis pneumonia has occurred in patients receiving chemotherapy. These are probably reinfections from patients exposed in the past who handled the infections normally on first exposure. X-ray findings may include interstitial or nodular pulmonary infiltrates, patchy lobular infiltrates, lobar pneumonias, or cavities. Establishing a diagnosis is difficult because serologic tests often remain negative, and cultures require 1-3 weeks for adequate growth and definitive identification.

Coccidioides may cause pneumonia as well as disseminated infections in these patients, but the suggestive geographic history of having lived in the Southwest or the Far West is absent. Furthermore, serologic titers, which are thought to be reliable, were negative in this patient. Similarly, cryptococcal pneumonia may occur in immunosuppressed patients, but the cryptococcal antigen studies were negative, and no organisms were recovered from the sputum.

Primary pulmonary candidiasis is a difficult diagnosis to prove. In the vast majority of patients candida is not the cause of the disease, and proof of pulmonary candidiasis requires tissue biopsy demonstration of fungal invasion of pulmonary parenchyma. Serologic tests for candida can be negative in at least 20 per cent of patients, even with disseminated candidiasis.

Aspergillus is second only to *Candida* as a fungal infection in patients with neoplasms. The diagnosis rests upon demonstration of the typical hyphae which branch abundantly at 45° angles, invading the tissue in question. The precipitin serologic test is very specific, but when it is negative the diagnosis rests on tissue biopsy. The tissue must be viable tissue, as these organisms are saprophytes and their discovery on necrotic tissue is not evidence of infection.

Parasitic diseases causing pneumonia in compromised hosts include pneumocystis, strongyloidiasis, and toxoplasmosis. The chest x-ray films of patients with pneumocystis pneumonia typically show bilateral interstitial alveolar infiltrates, usually starting around the hilum. Hypoxemia and respiratory alkalosis are typical. Pneumocystis disease is an attractive hypothesis in this patient because it affects compromised

hosts who are not necessarily neutropenic. Nearly all patients who get pneumocystis infections have either agammaglobulinemia or hypogammaglobulinemia, or have been treated with steroids. A smaller group of patients have lymphoreticular malignant disease and have received other immunosuppressive therapy. The diagnosis of pneumocystis disease rests on demonstrating the cysts in lung tissue or respiratory secretions; sputum is positive in less than 10 per cent of cases, and open lung biopsy may be necessary to establish the diagnosis pre-mortem. Serology is helpful if positive, but it is frequently negative. Treatment with pentamidine, or Bactrim IV® in high doses is successful in 70 per cent of patients.

Other parasites or infections such as *Toxoplasma gondii*, *Actinomyces*, *Nocardia*, and *Legionella* are unlikely in the present setting.

Table 4. Cytotoxic Agents Reported to Produce Interstitial Pneumonitis and Fibrosis

<i>Alkylating Agents</i>	<i>Nitrosoureas</i>
Busulfan	Carmustine
Chlorambucil	Semustine
Cyclophosphamide	
Melphalan	
Uracil Mustard	
<i>Antibiotics</i>	<i>Other</i>
Bleomycin	6-Mercaptopurine
Mitomycin	Methotrexate
Zinostatin	Procarbazine

Many chemotherapeutic agents have been shown to cause pulmonary disease (Table 4). Busulfan causes a chronic interstitial pulmonary fibrosis 10 months to 10 years after initiation of therapy, and changes of this type may have been present on her initial x-ray films. Busulfan does not usually cause overwhelming infiltrates with respiratory insufficiency and fever. For these reasons busulfan cannot explain the final clinical course of this patient.

To conclude, I believe the patient was in an accelerated phase of CML and developed a bacterial pneumonia which responded well to broad-spectrum antibiotics. Finally, the clinical picture may have been complicated by a large pulmonary embolus, which caused her death.

Clinical Diagnosis

- CML in accelerated blastic phase
- Pneumonia
- Busulfan lung

Dr. Sheeley's Diagnosis

CML in accelerated blastic phase
Bacterial pneumonia
Pulmonary embolus

Pathological Discussion

Dr. Ramakrishna N. Nayak:* An autopsy was performed, restricted to the examination of chest contents. The lungs were heavy (810, 365 gm), firm, and subcrepitant. The sectioned surface revealed edema and a stiff parenchyma due to fibrosis without honeycombing. The pleural surface was smooth and shiny. Microscopically, there was advanced interstitial fibrosis (Figure 3) with marked reduction of alveoli and dilatation of the remainder of the alveoli and alveolar ducts. Cytomegaly with bizarre nuclear appearance was present in alveolar lining cells, in the bronchial epithelium, and in cells of bronchial mucous glands, characteristic of busulfan effect (Figure 4). A moderate degree of pulmonary arteriosclerosis was present. The heart showed a moderate right ventricular hypertrophy and dilatation. Non-bacterial thrombotic endocarditis was present in the tricuspid and pulmonic valves. Bone marrow showed marked hypocellularity without evidence of leukemia.

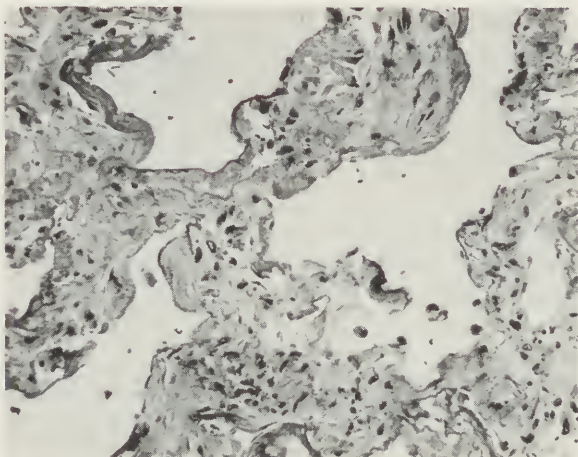


Figure 3. Lung showing severe interstitial fibrosis. $\times 250$

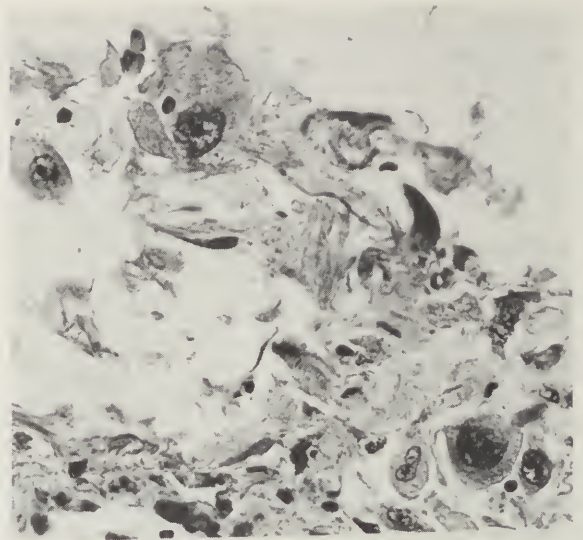


Figure 4. Lung showing bizarre cytomegaly of alveolar cells. $\times 400$

Anatomical Diagnosis

Chronic myelogenous leukemia, isochromosome 17 positive, with marked marrow depression (S/P busulfan therapy).

Respiratory failure due to diffuse interstitial fibrosis of lungs consistent with busulfan therapy.

Nonbacterial thrombotic endocarditis of tricuspid and pulmonic valves.

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Diabetes Mellitus — Practical Aspects II*

Determination of Endogenous Insulin Levels Has Proved Useful in Difficult Cases

Frank M. D'Alessandro, MD

This study was initiated for the purpose of reviewing treatment of the insulin-using diabetic to ascertain if determination of endogenous insulin levels may suggest alternatives in therapy. The study was conducted on a series of insulin-using diabetics who were poorly controlled (glycosuria 2 per cent, 2 hours post prandial glucoses >300 mg, fasting blood glucoses >200 mg.).

The patients ranged from moderately to markedly obese and had been on insulin therapy for 2 to 20 years. Three thin well-controlled diabetics were also included in the series for comparison. Plasma insulins were determined serially by using the C-peptide radioimmunoassay (RIA) modification of M. B. Block, et al,¹ thereby evaluating endogenous insulin levels. This method was preferred to the basic immunoassay of insulin in diagnosing newly encountered diabetic patients as the presence of circulating antibodies against bovine and porcine insulin renders the older method unreliable.

Methods

For the C-peptide determination, rabbit antibodies to synthetic human C-peptide and iodinated tyrosylated synthetic human C-peptide are used in a second antibody RIA procedure. The standard is diluted in C-peptide free serum. C-

peptide levels as low as 0.25ng/ml can be detected. The assays were performed at Nichols Institute, Los Angeles, California.

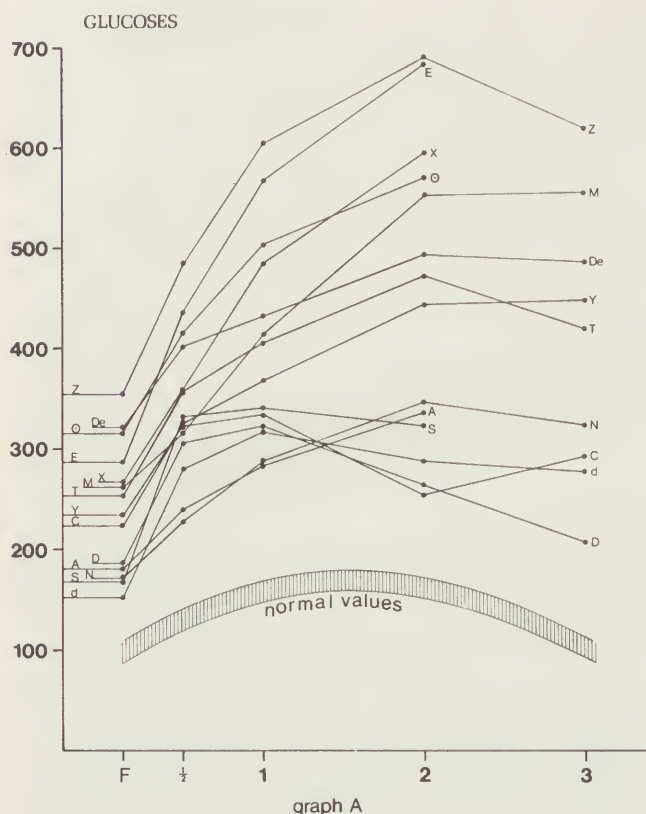
Insulin resistance may be defined as a state in which near-normal, normal, or above-normal amounts of insulin are produced, while the biologic effects of the hormone are reduced.

Graphs A and B depict the differences observed in the patient study group and suggest that some insulin-taking diabetics in reality have normal or elevated endogenous insulin levels as measured by C-peptide insulin. Graph A indicates the magnitude of diabetes mellitus that was indeed present and indistinguishable. Graph B separates the class I insulin-dependent diabetics who demonstrate immune reactive levels of insulin at 0.25 ng or lower (below accepted norms at all time intervals studied), demonstrating an obvious lack of the hormone throughout testing. Graph B also demonstrates a large proportion of these cases (II) with normal to markedly elevated C-peptide insulin levels, suggesting elevated levels of endogenous insulin with reduced insulin action, and possibly reduced insulin sensitivity. In this group obesity and poor control were most frequent. Further, Case E, a Type I insulin-dependent, extremely thin diabetic (weight 88 pounds), appeared clinically to be suffering from malabsorption. Complete workup in the hospital failed to reveal this disorder. The low curve (Graph B) with low measurable insulins may indicate the lack of trickle effect of insulin over 24 hours upon lipid cell receptors and functions and the absence of lipogenesis and lipolysis. This could be explained on the basis that insulin is the principal hormone affecting fat storage through its stimulating action on synthetic pathways and

* Continued from the June, 1982 *Journal*.

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its inhibitory effect on lipolysis (Williams¹⁰). Weight increase was noted with improved diabetic control via better insulin management.

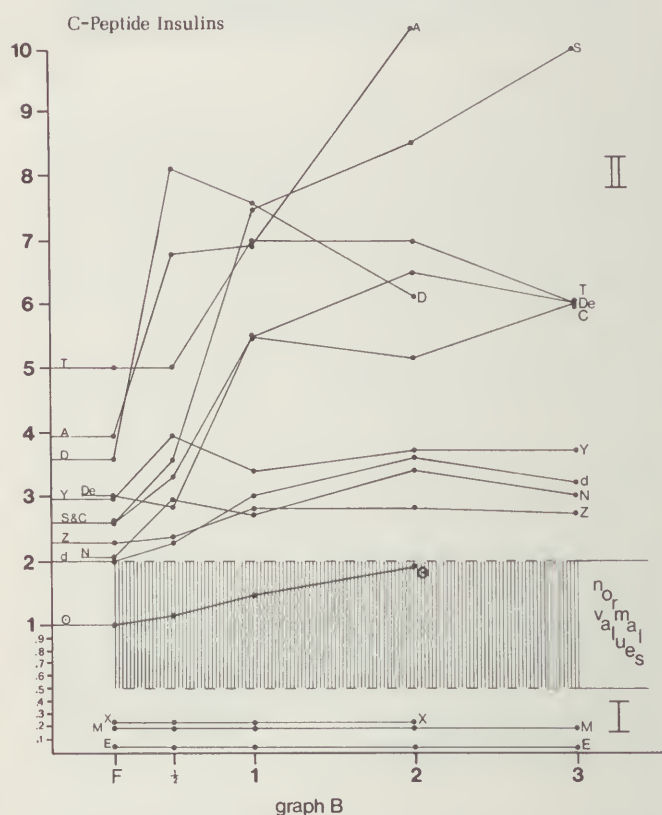


Graph C demonstrates that reduction of exogenous insulin doses was possible while achieving good control of diabetes following treatment with sulfonylureas. Cases D and N were most impressive, showing decreasing doses from 50-60 units to zero units per day in 2 and 4 weeks respectively. Not all cases had dose reductions, as a state of good diabetic control was given priority. Case De was characterized by improvement in fasting blood sugar and 2 hour post prandial glucose, and a weight reduction of 20-30 pounds soon after changing treatment to include insulin and sulfonylureas.

Discussion

In recent years various studies have resulted in the increasing use of insulin to control diabetes mellitus with a marked reduction in the use of the sulfonylureas. Other factors of diabetic care have also been stressed, such as diet, exercise, and general hygienic care. Lax and poor compliance, I believe, was important in the poor control and failures often experienced with the sulfonylurea.

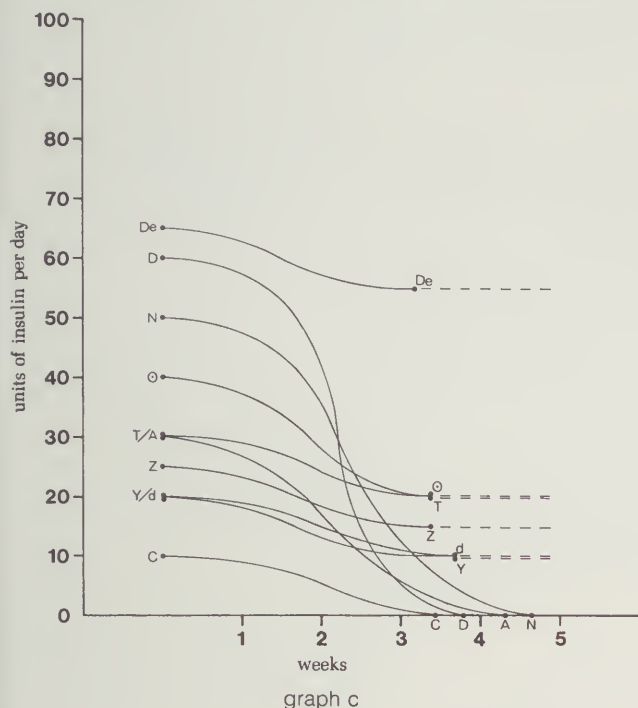
This study reviews a group of poorly controlled obese diabetics (although on insulin) and attempts to explain the reasons for their poor control. This could result from a state of hyperinsulinemia from high endogenous levels of insulin as measured by C-peptide analysis coupled with the daily use of exogenous insulin. The endogenous and the exogenous insulin together promote a state of increased lipogenesis and occasional hypoglycemia. These metabolic changes resulting in hyperinsulinemia may be responsible in part or principally for poor patient compliance with diet and ultimately self-management.



When sulfonylureas were added, the amount of daily insulin required to attain "good control" could be reduced. In some cases, there was improved overall control, with better dietary compliance and even weight reduction. In other cases, no attempt was made to reduce insulin dosage at this time, as patient control was adequate not to warrant a label of "poor control." These patients will be followed periodically, and sulfonylureas may be added if this treatment is more fully documented as being beneficial.

Of major importance is the question of long-term care for diabetics and the need for periodic

assessment of treatment. From these data the suggestion is made that those patients treated as Type I diabetics could possibly be diagnosed earlier as to their type of diabetes. In cases where patients are already on insulin, some may be reclassified and treated as non-insulin dependent



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or Type II diabetics. The care of these patients would be directed more toward the use of exercise and weight reduction. This weight reduction may increase insulin receptor effectiveness and receptor affinity, resulting in improved *insulin action*. A reduction of insulin use (or perhaps its termination) and the addition of sulfonylurea drugs may result in better diabetic management.

With the advent of the insulin pump and other insulin infusion techniques, a careful assessment of the type of diabetes is critical. As has been noted by many others, the control of Type II diabetics may require extraordinary amounts of insulin to effect adequate control.

The materials and methods, together with availability of testing used in this study, are now generally available to practitioners in most communities.

Acknowledgement

The author wishes to express his appreciation to Doctor Howard Fishbein, Epidemiologist, Rhode Island Department of Health for editing the manuscript, and to Alan Posn for his assistance in preparing the tables.

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Child Abuse and Neglect Update

New Services Are Available, But the Physician's Role Is Increasing

Edward W. Collins, MD
John S. O'Shea, MD

Since the 1978 update in this *Journal* on the subject of child abuse and neglect,¹ there have been considerable changes in the approach to this problem from the perspectives of the law, hospitals, state agencies, treatment resources, and health care providers. Indeed this is worth reviewing, as the number of children and families involved in child abuse and neglect has continued to increase. Between 1967 and 1977 only 150 cases were admitted to the Rhode Island Hospital with a diagnosis of child abuse.² However, during a one-year period beginning in April 1980 there were 122 cases admitted to Rhode Island Hospital and another 125 seen in the hospital's emergency and ambulatory units. Though the rate of increase seems to be leveling off over the past year, the high incidence continues to pose a significant challenge. All Rhode Island physicians should give this matter their attention and be aware of the recent developments.

Department for Children and Their Families

In 1979 the Rhode Island General Assembly enacted a bill that dramatically changed the approach to services for children, including the

abused. Most significant was the creation of a new Department for Children and Their Families. This department assumed the responsibility for providing services to children who were abused or neglected, a function previously performed by the Child Protective Unit of the Department of Social and Rehabilitative Services. This new department was also charged with the responsibility for other services for children including corrections, mental health, and foster care.

The department responds to reports of abuse or neglect through its Emergency Response and Assessment Unit, which is available by telephone.* This unit investigates reports, and if indicated a worker will go into the field to make an evaluation. At that point the child may be brought to a physician for an examination. The physician will be asked to describe the nature and the extent of the injury or condition and whether it is suspected of being caused by non-accidental means on a Physician's Report of Examination. As in the past, this identification of suspected abuse and completion of the report allows the physician to admit the child to the hospital for up to 72 hours for further evaluation of the incident without parental permission. Recent legislation also allows the physician to delegate this responsibility to DCF. This document also constitutes prima facie evidence that abuse or neglect has occurred and may be used in a family court hearing to determine the need to remove the child from the parents' custody after the 72 hours has expired.

During fiscal year 1981 the Emergency Response and Assessment Unit received approximately 5,200 reports, investigated 2,500 of these in the field, and opened 850 cases to service. This latter figure is a satisfactory estimate of the number of children who needed placement out of the

* See Resources at end of paper.

Edward W. Collins, MD, Chairman, Rhode Island Hospital Multidisciplinary Child Abuse Team; Assistant Professor of Pediatrics, Brown University, Providence, Rhode Island.

John S. O'Shea, Director, Division Ambulatory Pediatrics, Rhode Island Hospital; Associate Professor of Pediatrics, Brown University, Providence, Rhode Island.

home for at least some period of time.

The department also provides training to those working in the field of abuse or neglect and since its inception has sponsored programs for both their employees and the general community.

Other Legal Aspects

The same 1979 statute that created the Department for Children and Their Families also recognizes the importance of reporting suspected abuse to DCF by specifying failure to report a misdemeanor punishable by up to a \$500 fine, imprisonment for a year, or both. This report must be made within 24 hours of the physician's awareness of a suspicious injury or condition. As already noted, DCF maintains round-the-clock statewide telephone numbers to facilitate access. While no Rhode Island physicians have to date been prosecuted under this statute, there have been convictions of two non-professionals.

Physicians should also be aware of developments on the national front regarding failure to report. In 1972 a lawsuit brought against the police, hospital, and individual physicians who failed to report an injury was settled out of court for one half million dollars.³ In another case, *Landeros vs Flood*, the California Supreme Court agreed with a lower court that the plaintiff had cause for action against the doctor who failed to diagnose and report a case of the battered child syndrome. Following this failure to identify child abuse, the child subsequently received further injuries when she was returned home.⁴ It would seem prudent, therefore, that physicians who are aware of suspected abuse or neglect act in good faith to report these cases to the state agency, considering first the needs of the child and then possible liability for failure to report.

The statute that created the Department for Children and Their Families also created the Children's Code Commission, which is mandated to review all proposed legislation concerning the health and welfare of children. This Commission, also charged with the responsibility of reviewing and revising existing laws, is comprised of legislators, representatives from DCF, and community members with expertise in the needs of children. Currently this Commission is chaired by State Senator John C. Revens, Jr.

To insure that each child in protective care, custody, or treatment of the state is afforded the most appropriate care, the 1979 statute created the Office of the Child Advocate. Now headed by Michael Coleman, this office has been active in reviewing cases of institutional child abuse which have allegedly occurred while the child is in the

custody of the State of Rhode Island, as well as the policies and procedures at the various institutions operated or regulated by the state. Most recently a committee established by the Child Advocate investigated the death of a three-year-old child in West Warwick. Its report has prompted revisions of the policy and procedure for the management of cases by DCF.⁵

Hospitals

In April of 1979 the Rhode Island Hospital assembled a Multidisciplinary Child Abuse Team. The core members of this team consisted of a pediatrician, child psychiatrist, nurse, social worker, child development specialist, and a permanent representative from DCF.

At present the team reviews all children admitted to the hospital for suspected abuse or neglect. After each core member individually evaluates the child, the family, or both, they meet within 48 hours of admission to discuss their findings for the purpose of establishing the likelihood of abuse or neglect, to recommend further diagnostic evaluations, and to begin to form a treatment program for the child and family. The team has developed working relationships with law enforcement agencies and child abuse treatment programs by encouraging their attendance at meetings.

The group has been very active in its first three years and has been involved in either the initial evaluation or follow-up of approximately 740 cases of suspected child abuse. Where necessary, members of the group are available for consultation on all children served by the hospital who are not yet identified as abused or neglected, but for whom the health care provider would like some assistance in investigating this possibility. This case-oriented support and information has been welcomed by physicians who are confronted with such a case and thus have been able to share their concerns.

In addition to providing the direct services to children and families who are involved in possible abuse or neglect, this group has also been involved in educational programs for the professional as well as the lay community. It has provided for DCF in 1981 an intensive training program for the identification and management of sexually abused children and in November of 1980 helped to co-sponsor with DCF a symposium addressing the needs of the state with regard to child abuse management from the perspectives of providers, hospitals, DCF, courts, and legislature.

Community

Several community groups have formed since our last report which are worthy of note. Rhode Island now has a chapter of the National Committee for the Prevention of Child Abuse. This group has been active in promoting preventive programs as well as legislation to improve the care of children involved in abuse and neglect. The group is a resource for individuals seeking information on the topic and for speakers. The Coalition for Children's Rights is also active in advocating measures for meeting the needs of children. Several other community groups are interested in pursuing the identification and overseeing the management of the abused children and their families.

Volunteers from the community, after training, function as guardians for the child in the Court Appointed Special Advocate Program (CASA). These CASAs meet with the various parties involved, often including physicians, and help represent the interest of the child and the family in court proceedings. Experience to date has shown this to be as effective as the previous guardian *ad litem* system which engaged attorneys to perform this function.

Treatment Programs

As the causes of abuse and neglect are so diverse, programs to remedy this situation must be individualized. Usually these consist of individual counseling, family counseling, or psychotherapy that attempts to identify the stresses that lead to the abuse and to develop alternative coping mechanisms. This often is a lengthy process as dictated by the severity of the family dysfunction, individual problems of the child and parents, or chronic intergenerational inability to cope with the demands of being a parent. The outcome of the efforts is only fair with a "cure rate" less than 50 per cent. Yet DCF, the mental health agencies, and family service agencies would seem to be doing their job, for many recurrences are noted when the families have left these agencies' services. Long-term service is an unmet need for many families. Because of limited resources, agencies have become crisis oriented. Service must be limited or terminated, not necessarily because of the resolution of the problems, but because the acute situation has passed.

The treatment facilities are saturated, and there are often waiting lists. Funding cutbacks that have already occurred have also decreased the availability of services in both community and

state agencies. The outlook is for less governmental support.

The conflict between increasing identification of cases and decreasing availability of services seems to be resolved only through primary prevention. Examples are the early identification of families at risk, followed by intensive preventive approaches such as a Perinatal Coaching Program fostered by Helfer⁶ or a home health visitor program.⁷ Both are showing some effectiveness in decreasing the incidence of abuse and neglect.

Summary

While there are resources to assist the physician and more knowledge is being gained about the causes of child abuse and its treatment, the physicians' role in the management of abuse situations seems to be intensifying rather than diminishing. It is a difficult task that challenges the physician's knowledge, emotional reserves, and case management skills. The physician will have to be prepared for this by becoming familiar with factors that put the family and child at risk, what guidance can reduce these risks, what can be done for the abusing parent, and when and where to refer for treatment when the case has exceeded his or her competence.

This is the challenge of the 80s.

Resources in Rhode Island

Department for Children and Their Families —

To report a case: days, 277-2791; nights and weekends, 800-662-5100

Rhode Island Hospital Child Abuse Team —
277-8280 or 277-5062

Help Line — 800-662-5100

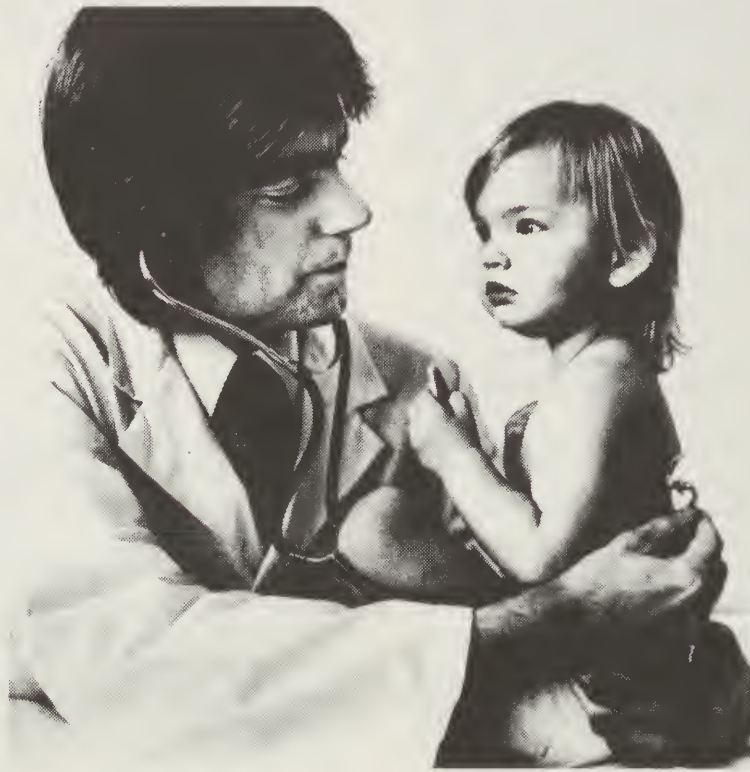
Child Advocate — 277-6650

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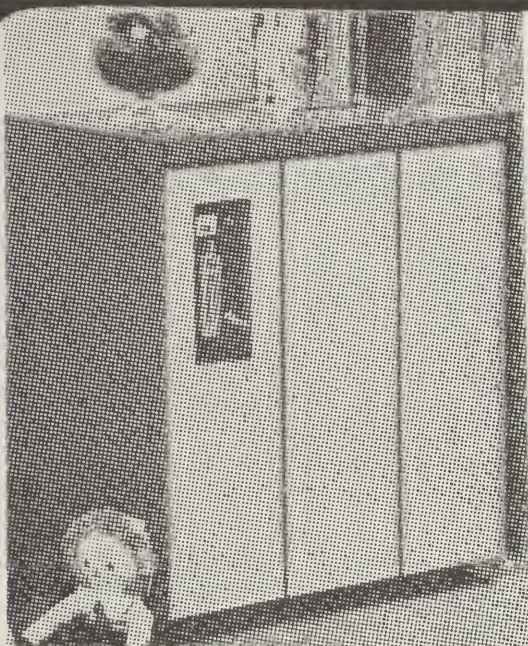
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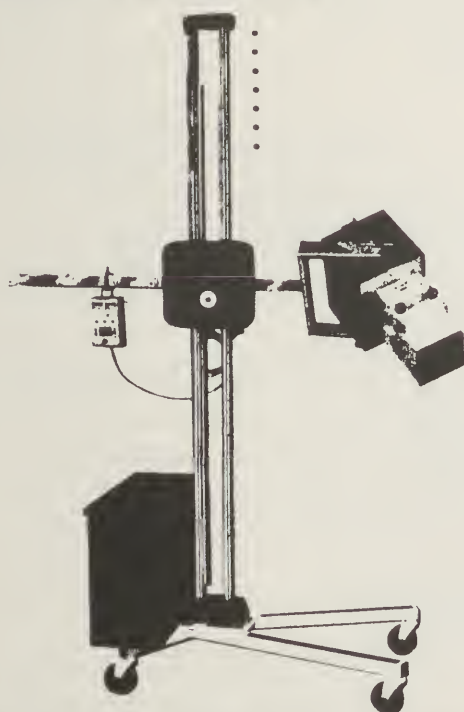
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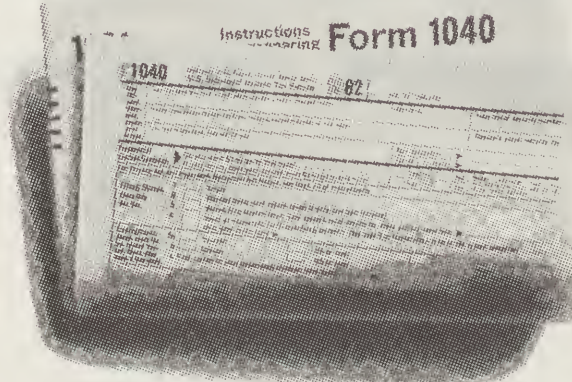
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- Caution patients about drinking alcohol, driving or operating hazardous machinery during therapy.



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Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, e.g., excitement, stimulation and hyperactivity.

Dosage: Individualize for maximum beneficial effect. **Adults:** 30 mg usual dosage; 15 mg may suffice in some patients. **Elderly or debilitated patients:** 15 mg recommended initially until response is determined.

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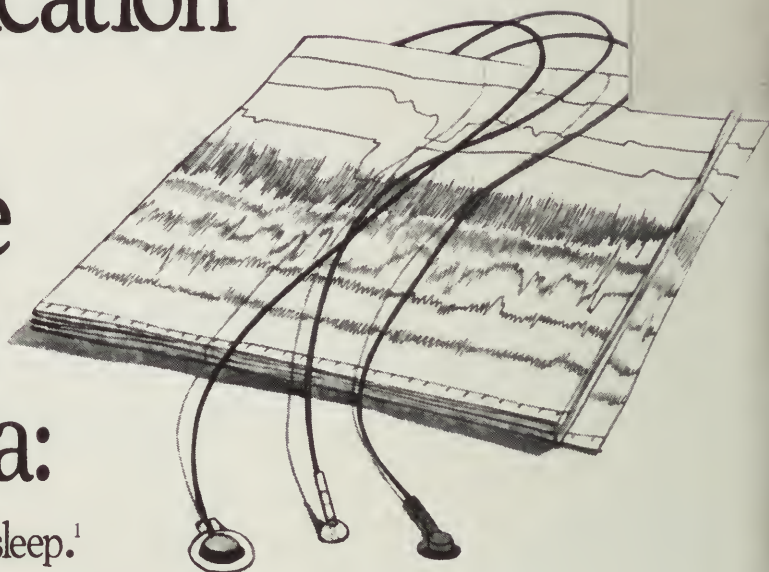
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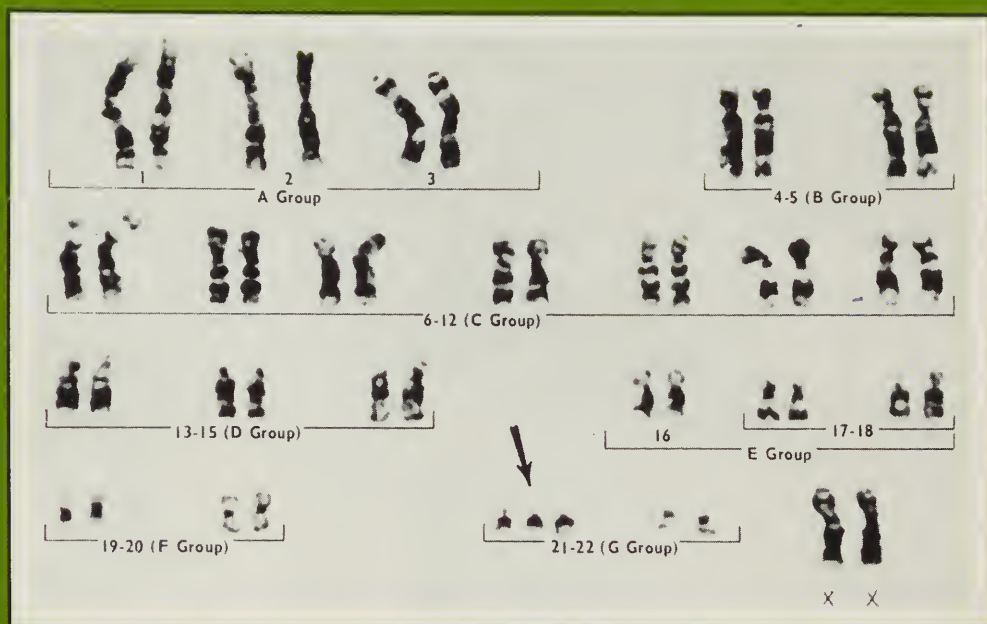
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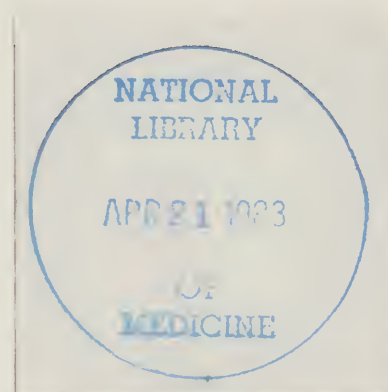
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Indications and Usage: Cefclor® (cefclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae* (*Diplococcus pneumoniae*), *Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci). Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Cefclor.

Contraindication: Cefclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES.

Antibiotics, including Cefclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics. Such colitis may range in severity from mild to life-threatening.

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis.

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone. In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation. When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile*. Other causes of colitis should be ruled out.

Precautions: **General Precautions**—If an allergic reaction to Cefclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of Cefclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug.

Cefclor should be administered with caution in the presence of markedly impaired renal function. Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Cefclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinistest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

Usage in Pregnancy—Pregnancy Category B—Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Cefclor. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers—Small amounts of Cefclor have been detected in mother's milk following administration of single 500-mg doses. Average levels were 0.18, 0.20, 0.21, and 0.16 mcg/ml at two, three, four, and five hours respectively. Trace amounts were detected at one

hour. The effect on nursing infants is not known. Caution should be exercised when Cefclor® (cefclor, Lilly) is administered to a nursing woman.

Usage in Children—Safety and effectiveness of this product for use in infants less than one month of age have not been established.

Adverse Reactions: Adverse effects considered related to therapy with Cefclor are uncommon and are listed below.

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70).

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment. Nausea and vomiting have been reported rarely.

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100), pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthritis and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Cefclor. Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy. Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic—Slight elevations of SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis, occurring in infants and young children (1 in 40).

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

(061782R)

Some ampicillin-resistant strains of *Haemophilus influenzae*—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Cefclor.¹⁻⁶

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*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.

Note: Cefclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

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Newsletter

Melvin D. Hoffman, MD, President
Norman A. Baxter, PhD, Executive Director
Wendy J. Smith, Editor

APRIL, 1983

LEGISLATIVE SEASON WARMS UP

After a review of pending legislation by the Public Laws Committee, the Rhode Island Medical Society:

--opposed legislation which would transfer responsibility for the Office of the Medical Examiner to the Department of Health. The Society emphasized that the Medical Examiner should remain autonomous.

--testified before the House Health, Education, and Welfare Committee on the proposed "Health Care Affordability Act of 1983" which would establish a maximum total limit on all hospital capital projects currently reviewed by the Health Services Council. Under the proposal, projects could be approved only if they met or were less than the total limitation.

In his March 4 testimony, Society President Dr Melvin D. Hoffman said that RIMS supported the concept of a maximum total limit to contain costs. He noted, however, that a lid on capital expenditures may have long-term implications for the quality of patient care and expressed concern about the lack of an arbitration method in the proposal.

--opposed H 5272 which would require the Department of Health to publish a physician directory. The House of Delegates is on record as supporting the concept of a directory for patients published on a voluntary basis.

--supported S 086 which would expand the definition of health care providers to include rape crisis centers under existing confidentiality laws. The Society opposed a bill which would extend absolute confidentiality to all communications between rape victims and center counselors.

--testified before the Commission to Review the Rate Structure of Blue Cross Plan 65. Dr Hoffman emphasized that physicians' willingness to accept assignment of Medicare claims was dependent on several factors, including the lack of physician participation in the establishment of fees, delay in implementation, and delay in third-party payment. He also cited the Society's recently-adopted position on medical records and emphasized the activities of the Media-tion Committee.

The May NEWSLETTER will include a detailed report on health-related bills. As of this writing, a flurry of bills was expected before the March 10 filing deadline.

ANNUAL MEETING PLANS ANNOUNCED

The Scientific Work and Annual Meeting Committee, chaired by Dr Henry T. Randall, recently announced plans for the Society's Annual Meeting, to be held Wednesday, May 25, at the Providence Marriott. The annual session will begin with a brief business meeting at 4:30 pm, followed by a press conference featuring Dr Frank

ANNUAL MEETING (cont.)

Jirka, President-Elect, American Medical Association, at 5 pm. Dr Jirka will have completed a study tour of the British health system immediately before his visit to Providence and is expected to make some provocative comparisons between the British and American systems of health care delivery.

The evening's festivities will begin with a cocktail hour at 6 pm, followed by dinner and the Presidential Address. Announcements will be sent to the membership in early April.

COUNCIL MEETS IN FEBRUARY

At its February 28 meeting, the Council approved the appointment of E. James Stergiou as an actuary to represent the Society at the Joint Underwriting Association rate increase hearings scheduled for later this summer. Mr. Stergiou represented the Attorney General's office during the 1981 rate hearings. Last September, the House of Delegates authorized allocation of up to five per cent of the Society's operating expenses to hire an actuary.

In other actions, the Council:

--approved the report of the Nominating Committee for submission to the House of Delegates at its March meeting. The Committee proposed the following slate of candidates for 1983-84: President -- Dr Charles Shoemaker, Jr.; Vice-President -- Dr Frank G. DeLuca; President-Elect -- Dr Paul J.M. Healy; Secretary -- Dr Milton W. Hamolsky; and Treasurer -- Dr Kenneth E. Liffmann.

--approved a proposed format for a physician directory for patients. The House endorsed the concept of a directory at its January meeting after emphasizing that: 1) the House should retain final approval of the directory's format and contents; 2) the directory should be published at no cost to the Society; 3) physician participation should be voluntary; and 4) provisions should be made for publication of a second edition within 18-24 months.

--endorsed the nomination of Dr H Denman Scott as Director of the Rhode Island Department of Health. Dr Scott will succeed Dr Joseph Cannon who announced plans to retire in 1984. Dr Scott, who has practiced internal medicine in Providence since 1973, previously was associated with the Centers for Disease Control and SEARCH.

--appointed Drs Richard A. Carleton, Melvin D. Hoffman, and John A. Pella as delegates to the Interagency Council on Smoking.

--approved appointment of a committee to review the Society's bylaws and streamline the existing committee structure.

KENT COUNTY AUXILIANS RECEIVE NATIONAL PRESS

The March, 1983 issue of Facets, published by the AMA Auxiliary, reported on a recent fund-raising project of the Kent County Auxiliary. To help finance a new \$4 million wing of the Kent County Memorial Hospital, the auxiliarians sponsored a raffle with a fully-equipped BMW as the prize. A local dealer sold the car to the auxiliary at cost and donated a sun roof and air conditioning. The raffle -- held at a cocktail party sponsored by the auxiliary -- netted a \$10,000 contribution for the hospital project.

RIMS OFFICERS MEET WITH BAR ASSOCIATION OFFICIALS

The Society's officers and staff met with their counterparts from the Rhode Island Bar Association on February 15 to discuss legal determination of death, release of medical records, medical malpractice panels, intraprofessional relationships, and other issues. Both sides agreed that future liaison would be valuable to address such problems as blanket requests for medical records.

PERIPATETICS

Society members in the news include:

- o Charles E. Millard, MD, recently was named to a 13-member National Institutes of Health Consensus Development Conference on Liver Transplantation. Dr. Millard is one of three practicing physicians appointed to the panel. It will meet in June to determine what kinds of patients would benefit from liver transplants and directions for future research. He served as the Society's president during 1981-82.
- o Joseph E. Carulo, MD, another past RIMS president (1978-79), was elected Chairman of the Statewide Health Coordinating Council for 1983-84.
- o Arthur I. Geltzer, MD, Department of Ophthalmology, The Miriam Hospital, recently participated in a site visit by Project ORBIS to Pakistan and Sri Lanka. ORBIS maintains and staffs an aircraft completely equipped with facilities for ophthalmological surgery and treatment. The project's primary focus is teaching through demonstration.
- o The medical staff officers at Roger Williams General Hospital for 1983 include H. Raymond McKendall, MD, President; Henry S. Urbaniak, Jr., MD, Vice-President; Anthony Testa, MD, Secretary-Treasurer; and Cyril Bellavance, MD, Executive Committee representative.
- o John R. Stuart, MD, Providence, formally was inducted into the New England Surgical Society late last year.
- o Robert A. Carnevale, MD, Providence, was named a fellow of the American College of Cardiology in January.
- o William J. MacDonald, MD, East Providence, recently was elected to the Board of Directors of the National Association of Blue Cross/Blue Shield Plans. He currently serves as Vice-Chairman of the Board of Blue Cross/Blue Shield of Rhode Island.
- o New medical staff officers at Rhode Island Hospital are Brian Dorman, MD, President; John Lathrop, MD, President-Elect; Joseph Lombardozzi, MD, Vice-President; and Paul Sydlowski, MD, Treasurer.

HOSPITAL PRIVILEGES BECOMING MORE RESTRICTIVE

More than 17 per cent of all hospital clinical departments nationally are closed to new medical staff appointments and the percentage of physicians with hospital admitting privileges is declining. The trend is the result of the increasing number of new physicians seeking scarce hospital privileges and may lead to increasing competition among hospitals and their medical staffs. The situation is particularly acute in the Northeast where 23.6 per cent of all hospital departments are closed to new staff appointments. In comparison, some 16.7 per cent are closed in the West, 15.9 per cent in the South, and 15.2 per cent in the North Central region.

HOW DO I OBTAIN INFORMATION ABOUT MY MEDICARE FEE SCHEDULE?

The Medicare fiscal intermediary for the state, Blue Cross/Blue Shield of Rhode Island, is required by law to provide two types of fee data:

- o Your individual Medicare fee profile of "customary charges". This is the median charge or the amount that covers your charges at least half the time the service is performed.
- o Prevailing fee charges. The prevailing charges are calculated at the 75th percentile of customary charges for each medical service made by physicians of comparable skill and training.

Requests must be made in writing to Albert J. Lewis, Director, Department of Professional Relations, 444 Westminster Mall, Providence, Rhode Island 02901. You should indicate whether you would like your own fee profile or the prevailing rate for a specific service or procedure.

Physicians often ask the following questions about their fee profiles:

1) *Why doesn't the profile include all my services?*

You must have filed at least three or more charges for the same procedure in the same calendar year for a service to appear on your profile. A single claim for a particular service does not provide enough information to determine whether that charge is your customary one.

2) *How can I upgrade my fee schedule?*

Fee schedules are revised once a year on July 1 based on your charges during the previous calendar year. If you increase your charge for a particular service from \$20 to \$25, that increase will not be reflected until you have generated enough charges at the higher rate for it to be considered your customary one. For example, if you perform the service 1,000 times during the year, the increase would not become effective until you have performed the service at least 501 times at the \$25 rate.

3) *How does Medicare calculate reimbursement for new physicians with no previous fee experience?*

Physicians just starting out in practice are reimbursed at the 50th percentile of other physicians performing the same service in the same specialty and location.

Carriers must use at least three months' charge data in any calendar year to establish a new physician's individual "customary charge" for the fee screen year. The fee year runs from July 1 to June 30. A physician who starts practice after October 1, for example, would be paid at the 50th percentile maximum rate until the following July.

NEXT MONTH: *RESOLVING MEDICARE PAYMENT PROBLEMS*

Do you have a practice management question? Send your ideas for future columns to W.J. Smith, Rhode Island Medical Journal, 106 Francis Street, Providence, Rhode Island 02903.

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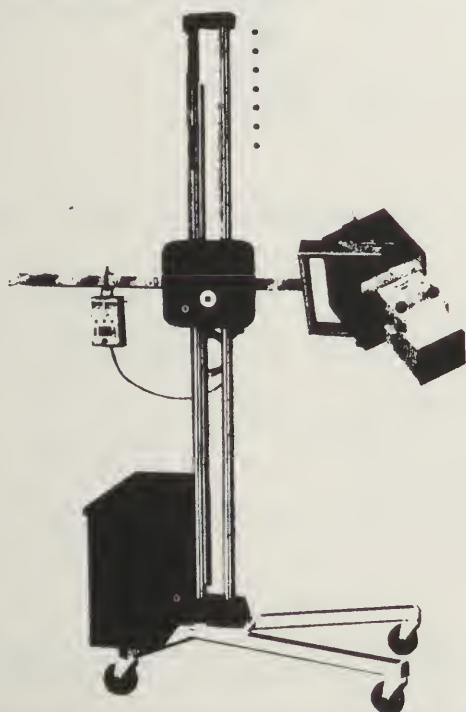
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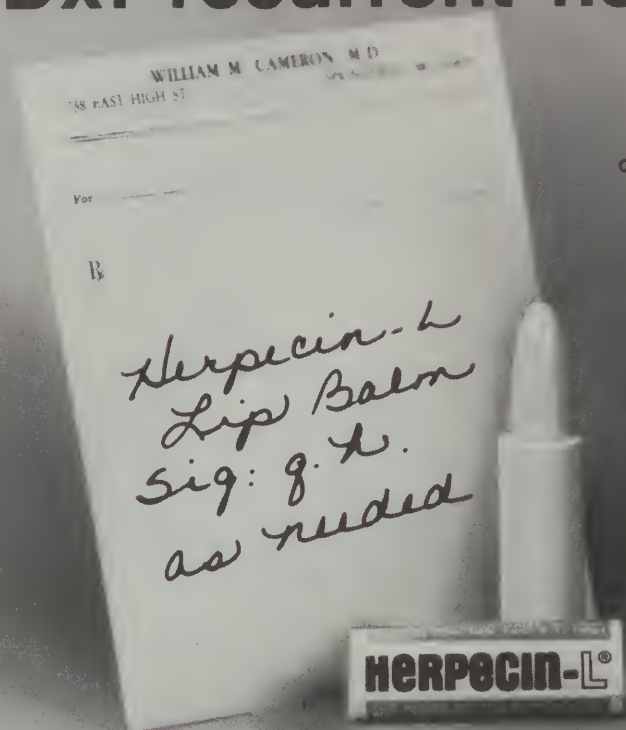
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Rhode Island Medical Journal

April 1983

Volume 66, Number 4

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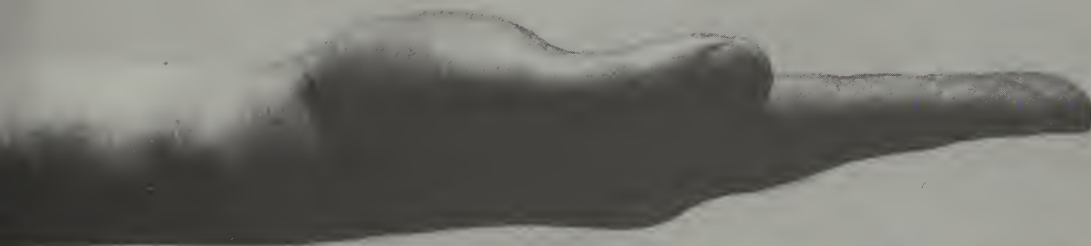
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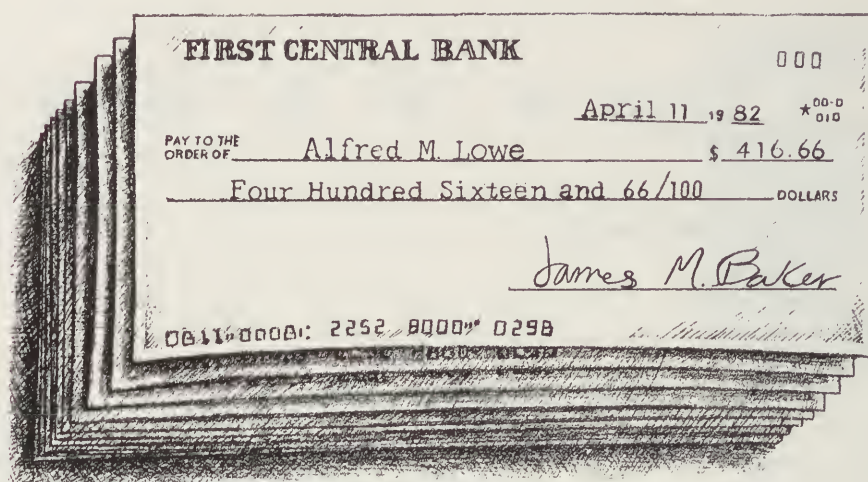
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A karyotype of a female infant with trisomy 21 (Down's Syndrome)
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A Role for Business

According to a recent report of the Health Planning and Developmental Division of the Rhode Island Department of Health, health care costs in Rhode Island are rising rapidly and present significant problems to business, labor, and individuals. Many private businesses have been confronted with large premium increases for the renewal of their health insurance contracts in recent years. The increase for small group pools was 14 per cent in fiscal year 1980, 19 per cent in fiscal year 1981, and 29 per cent in fiscal year 1982. It is projected that an increase of an additional 33 per cent will prevail in 1983 if a recently-filed rate increase is approved.

Additionally, Rhode Island devotes more of its resources to health services than the national average. For example, in 1980 health care costs in Rhode Island were 11.5 per cent of gross state product compared to 9.5 per cent of gross national product. Health care expenditures totaled \$1.1 billion, or 16 per cent of median family income in Rhode Island. Both of these measures of health expenditures are above the national average in spite of the fact that Rhode Island ranks 43rd in per capita income adjusted for the cost of living.

Health insurance premium increases and direct expenditures for health care are only part

of the cost problem confronting the business community. Other health-related costs of business are also very substantial. Life insurance, disability insurance, taxes which support government health programs, sick leave, and lower productivity on-the-job impose large costs. It is well known that the increase in premiums for worker's compensation has been especially rapid in recent years. Although life insurance premiums have been relatively stable, they still represent a substantial benefit cost. Unnecessary productivity losses are especially damaging to the competitiveness of Rhode Island businesses.

While existing mechanisms for restraining health care cost increases such as the Prospective Reimbursement Program and the state Certificate-of-Need Program are having some effect, greater involvement by all affected groups is needed to control health-related cost increases. Failure to take effective action may make it more difficult for Rhode Island's existing employers to remain competitive and to attract new industry to the state. It is essential that business interests in Rhode Island develop effective strategies for containing the growth of health care costs.

Seebert J. Goldowsky, MD

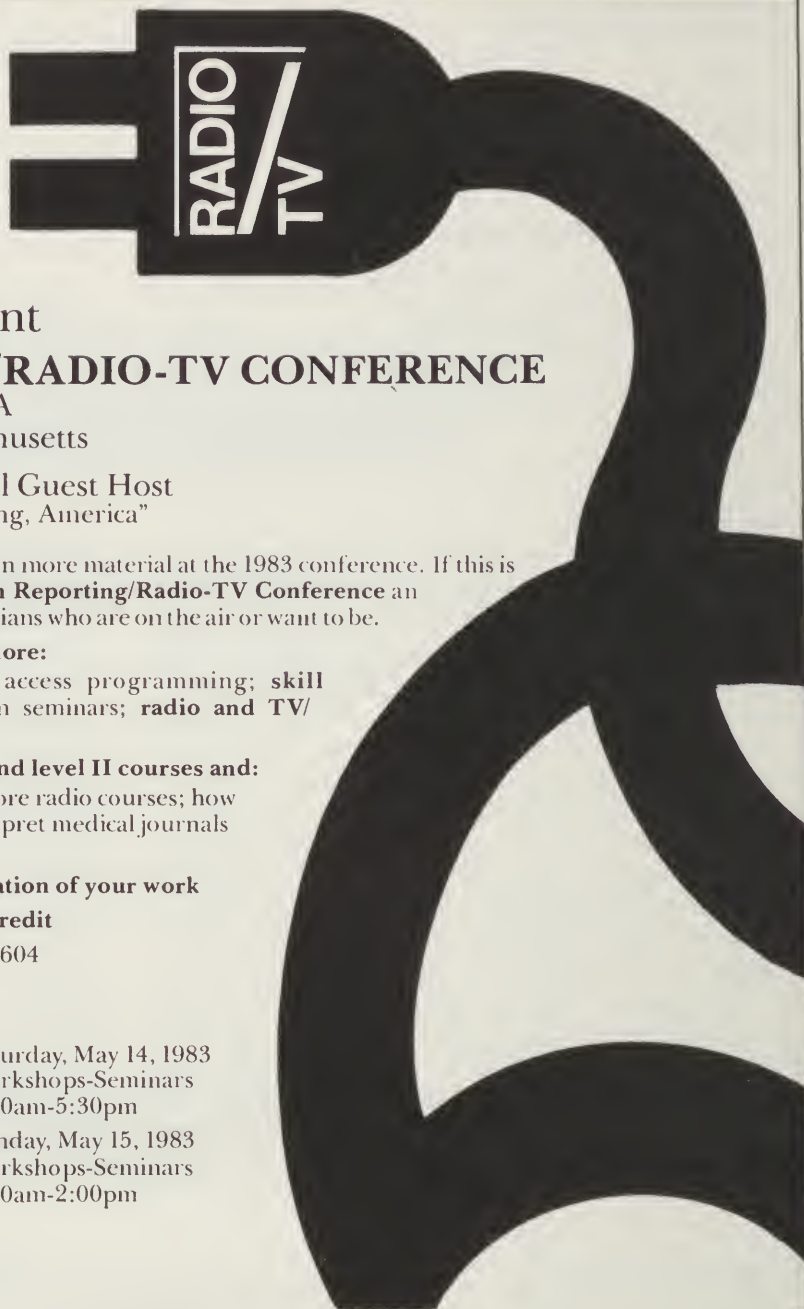
Karen Challberg

Karen Challberg, Managing Editor of the *Journal* and Assistant Executive Director of the Rhode Island Medical Society, resigned both posts as of the first of this year. Karen served ably in both capacities for a number of years and contributed substantially to the present healthy state of the *Journal* and to its attractiveness and accuracy. We shall greatly miss her cheerful presence and workmanlike and conscientious labors on behalf of the *Journal* and the Society. We wish her well in her new endeavors.

At the same time we welcome to our midst Wendy Smith, formerly with the American Society of Internal Medicine and the Illinois State Medical Society, as the new Managing Editor, Editor of the Newsletter, and Assistant Executive Director of the Society. Wendy has already demonstrated her grasp of Society affairs and has taken to medical journalism as a duck to water. We look forward to having her aboard.

Seebert J. Goldowsky, MD

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Thursday, May 12, 1983

Welcome Reception

6:00-7:30pm

Friday, May 13, 1983

Workshops-Seminars

7:30am-5:30pm

Saturday, May 14, 1983

Workshops-Seminars

8:00am-5:30pm

Sunday, May 15, 1983

Workshops-Seminars

8:00am-2:00pm

Registration deadline April 12, 1983

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Utilization and Benefits of Prenatal Diagnosis in Rhode Island

Techniques Now Available for Detecting Inherited Disorders Provide Information Valuable for Genetic Counseling

Dianne N. Abuelo, MD
Gail Barsel-Bowers, MS
Siegfried M. Pueschel, MD
Amy M. Goldstein, MS
Howard A. Hall, MD

A major component of the Rhode Island Genetic Counseling Program has been the prenatal diagnostic service, which has been in existence since 1974. Our first three years' experience with amniocentesis was reported in 1978.¹ At that time, we and other centers were discouraged by the small number of amniocentesis procedures that were being done for at-risk pregnancies. During the past few years, however, there has been a significant increase in public and professional awareness of this procedure, and concomitantly utilization of amniocentesis has improved markedly. In addition, other modalities for prenatal diagnosis, such as ultrasound studies of the fetus and fetoscopy, have become available. The number of fetal conditions that can be diagnosed prenatally has also increased and, at the present

time, 183 fetal conditions can be identified in the antenatal period.²

This report will update the results of the Rhode Island amniocentesis program and also describe newer technologies that have become available for the prenatal detection of genetic disorders (Table 1).

Table 1. Techniques for Prenatal Diagnosis

Techniques	Conditions Detectable
I. Amniocentesis	Chromosomal abnormalities Biochemical disorders Neural tube defects Hemoglobinopathies
II. Ultrasound	Neural tube defects Renal defects Skeletal dysplasias
III. Fetoscopy	Genetic dermatologic diseases External malformations Hematologic disorders

Dianne N. Abuelo, MD, Director, Genetic Counseling Centers of Rhode Island, Providence, Rhode Island

Gail Barsel-Bowers, MS, Genetic Counseling Coordinator, Rhode Island Hospital, Providence, Rhode Island

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Howard A. Hall, MD, Obstetrical Consultant, Genetic Counseling Centers of Rhode Island, Providence, Rhode Island

Amniocentesis

Amniocentesis is the most commonly-used procedure for prenatal diagnosis at present. In 1981, approximately 300 genetic amniocenteses were performed in this state. The procedure involves removal of approximately 20 ml of amniotic fluid during the 16th week of gestation for determination of the fetal karyotype and alpha-fetoprotein level. Indications for amniocentesis are listed in Table 2. As noted, over 75 per cent of amniocenteses are performed because of maternal age of 35 and over. In 6 per cent the reason for

amniocentesis is a previous child with a chromosomal disorder, and in another 6 per cent a previous child with a neural tube defect.

In 1978, only 8.3 per cent of Rhode Island women in the 35 and above age group were availing themselves of amniocentesis (Table 3), which was the lowest reported rate for the New England states. However, by 1980 the number increased significantly (36.5 per cent), and Rhode Island was second only to Connecticut in utilization of this procedure in the New England region. This figure increased to 41.6 per cent for Rhode Island in 1981.

and a thorough discussion of the risks of the procedure they still request amniocentesis, their request is granted. However, we do not accept patients for amniocentesis for fetal sex determination alone.

About half of the patients having amniocenteses in Rhode Island are referred for this purpose to the Genetics Program. The remainder are performed by private obstetricians. Table 2 summarizes findings on the patients seen through the Genetics Program and indicates that, as expected, the results are normal for the majority of patients.

Table 2. Indications for Amniocentesis — Rhode Island Genetics Program — 1978-81

	Amniocenteses #	Predicted % %	Predicted % Abnormal	Abnormals Found	Actual % Abnormal
Advanced Maternal Age (35 or older)	297	76.7	1-4	trisomy X trisomy 18 trisomy 21	1
Previous child with Down syndrome or other chromosomal abnormality	24	6.2	1-2	none	0
Previous child with neural tube defect	24	6.2	2-3	none	0
Chromosomal abnormality or NTD in either parent	4	1.0	variable	partial trisomy 8	25
Hereditary, biochemical or hematologic disorder	6	1.6	25	Alpha Thalassemia Sickle Cell Anemia Methylmalonic Acidemia	50
Maternal anxiety	21	5.4	<1	none	0
Other	11	2.8	<1	none	0

All couples served by the Rhode Island Genetic Counseling Program receive genetic counseling prior to amniocentesis in order to provide them with information concerning their risk for a detectable abnormality as well as the risks of the procedure itself. Generally, the risk of fetal loss due to amniocentesis is estimated to be about 0.6 per cent.³ Not all couples referred for amniocentesis elect to undergo this procedure, since many discover that their risk for having a child with a detectable birth defect is less than they had anticipated, or the risk of the procedure may be higher than the risk of having a defective child. Thus, approximately one-third of the patients seen for genetic counseling decide against amniocentesis.

On the other hand, there are also women under the age of 35 who are not considered to be at increased risk, but who manifest considerable anxiety with regard to having a child with a potentially detectable defect and who insist upon having amniocentesis. Some of these patients state that they could not continue the pregnancies without the reassurance that amniocentesis would provide them. If after genetic counseling

Abnormal results include three chromosomal trisomies found in the advanced maternal age group. After counseling, all three mothers elected to continue their pregnancies. The infant with trisomy 18 died shortly after birth; the infant with trisomy X, as expected, has no physical abnormalities and is doing well; and the infant with trisomy 21 has recently been born and is doing fairly well. One patient who previously had given birth to a chromosomally abnormal child was found to be a carrier of a complex chromosomal translocation. This mother had three retarded siblings and four who died with congenital malformations. Prenatal diagnosis revealed a chromosomally abnormal fetus, and the mother elected to terminate the pregnancy. Abnormalities found in couples at risk for hematologic defects included one case of homozygous alpha thalassemia (a lethal condition); the parents decided to terminate. One biochemical defect of an untreatable type (methylmalonic acidemia) was detected. The couple's first child had died of this condition soon after birth, and they decided to terminate this pregnancy.

Thus, it can be seen that the number of pregnancy terminations (3 in a period of 7 years, or 0.6 per cent) is extremely low in patients who request genetic amniocentesis and is mainly confined to those defects that are lethal or untreatable, or would result in extreme mental and physical disabilities.

It has been reported elsewhere that many women have sought elective abortion because prenatal diagnosis was not available to them, either because no test had been developed to diagnose the disorder for which the fetus was at

risk. The skeletal findings in these conditions are quite striking at 18 to 19 weeks of gestation, which allows accurate assessment of a fetus for these as well as several other skeletal dysplasias. We have used sonography to follow several pregnancies of mothers who had previously given birth to infants with skeletal dysplasias. Fortunately, all fetuses were unaffected, and at birth all infants were normal.

Ultrasound can also be used for examination of fetuses at risk for limb defects, hydrocephalus, neural tube defects, and certain renal disorders,

Table 3. Percentage of Women 35 and Over Who Had Amniocentesis in New England

	Conn	Mass	Maine	N Hamp	Vt	RI	N Eng
1978	22.3	18.6	14.7	9.0	—	8.3	16.7
1979	34.7	26.6	14.8	12.3	8.3	19.6	25.3
1980	41.7	34.4	17.8	17.6	12.9	36.5	32.7
1981	*					41.6	

* (Not yet available, except for Rhode Island.) Data collected by New England Regional Genetics Group.

risk (eg cystic fibrosis) or because the referral was too late in the pregnancy for the testing to be done.⁴ In order to obtain information about our Rhode Island patients, we decided to survey a recent segment of our patient population to determine what decisions they might have made if amniocentesis had not been available to them. A questionnaire was sent to 150 amniocentesis patients who had been seen during the years 1980 and 1981. The response rate was 80 per cent. One question asked "What would you have done if amniocentesis had not been available?" Results are summarized in Table 4. They indicate that over 10 per cent of these patients would have avoided or aborted their pregnancies had prenatal diagnosis not been available.

Ultrasound Examination

With the increasing availability and improved resolution of ultrasound, this technique has largely replaced x-ray for prenatal diagnosis of skeletal disorders. Using ultrasound, one not only spares the fetus exposure to ionizing radiation, but real time ultrasonography can provide images of the fetus during active movement. Ultrasound has proved particularly useful in the evaluation of fetuses at risk for skeletal dysplasias.⁵ For example, thanatophoric dysplasia, a lethal type of neonatal dwarfism, is thought to be caused by a new mutation of a dominant gene and is usually associated with a negligible recurrence risk for future pregnancies. It must be distinguished from achondrogenesis, a recessive disorder that has a 25 per cent recurrence

eg neonatal polycystic kidney disease or renal agenesis. The accuracy of ultrasound in detecting these conditions varies and depends upon the size of the defect as well as the age of onset of the abnormality.

Fetal echocardiograms can be performed for prenatal diagnosis of congenital heart defects. Over 1,000 fetal echocardiograms have now been

Table 4. "What Would You Have Done If Amniocentesis Had Not Been Available?"

	Number	%
Would have become pregnant and continued pregnancy	104	86.6
Would have avoided pregnancy	10	8.4
Would have aborted pregnancy	3	2.5
Not sure	3	2.5

done at Yale-New Haven Hospital. Several defects such as hypoplastic left heart syndrome, atrio-ventricular canal, and tetralogy of Fallot have been diagnosed. Couples counseled because of congenital heart defects either in themselves or in a previous child and families considered at risk for other reasons can be referred for fetal echocardiography if they feel the information gained from it would be helpful to them.

Fetoscopy

This procedure involves insertion of a fetoscope through the anterior wall of the uterus. It is used to visualize the fetus for external defects and for purposes of sampling fetal blood or skin in rare cases when a diagnosis cannot be made by

amniocentesis alone. Fetoscopy is not presently available in Rhode Island. Since it is required in only one or two cases yearly, our patients requesting this procedure are referred to Yale-New Haven Hospital.

Maternal Serum Alpha-Fetoprotein Screening

In 1972, neural tube defects (NTDs), which consist mainly of spina bifida and anencephaly, were found to be associated with increased amounts of amniotic fluid, alpha-fetoprotein (AFP). This finding has made prenatal diagnosis possible for couples who previously have had an affected child. Since 95 per cent of cases of NTDs occur in families with no previously affected member and in women who are unaware they are at risk, an aliquot of each amniotic fluid specimen obtained for any indication is also sent for AFP determination as a general screening procedure.

The discovery that women carrying fetuses with NTDs have increased amounts of AFP in their serum has made it possible for the majority of these defects to be detected prenatally by screening maternal serum.⁶ Initial results of maternal serum alpha-fetoprotein (MSAFP) screening programs have indicated that not only structural defects, such as spina bifida, but also other high-risk pregnancy problems, eg twin pregnancies and low birth weight, can be detected. MSAFP screening is now becoming a part of routine prenatal care. At this time, approximately 40 specimens monthly are processed through the laboratory at Women and Infants Hospital, and this number is expected to rise rapidly.

It is recommended that a maternal blood sample for AFP screening be obtained at the 16th week of gestation. In approximately 5 percent of cases, the AFP concentration will be elevated. A repeat specimen should then be obtained at the 17th week of pregnancy. Some will be normal on the second determination, and others will be found to be normal when the gestational age is calculated accurately. Patients who have two elevated serum AFP determinations should be examined carefully by ultrasound, which may reveal a structural defect, multiple pregnancy, or other problem. Further management is indi-

vidualized and may include amniocentesis. If an elevated amniotic fluid AFP is found, a major fetal malformation or impending fetal demise is likely. Recently, determination of acetylcholinesterase levels has been found to increase the diagnostic accuracy of the testing for NTDs.

It should be emphasized that appropriate parental counseling is important at each step of the procedure and that a decision either to continue or terminate a pregnancy with an affected fetus should be made only by the couple concerned.

Summary

Techniques are now available for prenatal diagnosis of many inherited disorders. Utilization of prenatal diagnosis by families at risk for having children with birth defects has increased steadily. In addition, maternal serum screening will allow earlier discovery of certain congenital malformations and pregnancy complications in families not previously known to be at risk.

Acknowledgements

The authors wish to thank the staffs of the cytogenetics laboratories of the Rhode Island Hospital and the Women and Infants Hospital, and the Ultrasound Department of the Women and Infants Hospital for their excellent service and cooperation.

We also wish to thank Jocelyn Blanchet for secretarial services.

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Nuclear Medicine — Role in Evaluating Acute Abdominal Trauma: A Case Report

Multiple Imaging Procedures Can Be Carried Out in a Relatively Brief Period

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The following case report and discussion illustrate the continued utility, safety, flexibility, and rapidity with which an abundant amount of accurate information can be obtained by employing diagnostic nuclear medicine procedures in the evaluation of acute abdominal trauma.

The use of radionuclide imaging in the victims of acute trauma is well documented for: the head,¹ the thorax,² the abdomen,³ the genitourinary system,⁴ and the skeleton.⁵ In many instances, it is the only imaging modality possessing sufficient sensitivity to detect the site of injury.⁵

Case Report

Recently a 28-year-old Caucasian male presented at the Acute Care Unit of the Providence Veterans Administration Medical Center complaining of increasingly severe generalized abdominal pain of approximately eight hours duration. He also complained of exquisite left back and left lower rib cage pains which were allegedly the result of having been struck with a blunt instrument during an assault that had occurred three

days prior to admission. During the three days before coming to the Veterans Administration Medical Center, the patient had refused complete evaluation at two community hospitals, as he was denied medication for pain because of a past history of drug abuse. X-ray studies of the chest and abdomen were performed at one of the hospitals and were reported to have been negative.

On admission to the Acute Care Unit, the patient was found to be in moderate distress. His pulse was 102 beats per minute and regular. His blood pressure was 135/90 mm Hg supine with an orthostatic response, falling to 90/70 mm Hg in the sitting position. His lips were pale, and there was a large ecchymotic area over his left lower back. Examination of the abdomen revealed guarding, rebound tenderness, and absent bowel sounds.

Because of suspicion of splenic injury, the patient was sent to the Nuclear Medicine Service for liver and spleen imaging. Blood had been drawn for appropriate laboratory studies.

In the Nuclear Medicine Service, the patient's vital signs were found to be stable. Because of the urgency of the patient's condition, an elective procedure in progress on another patient was interrupted so that the emergency imaging procedures on this patient could be performed.

The 5 mCi of ^{99m}Tc labeled sulfur colloid used for the liver and spleen imaging were administered intravenously with the patient positioned under the scintillation camera so that abdominal blood flow might be studied. A large field of view camera was employed, together with a high resolution parallel hole collimator. Analog data were

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collected on film at a frame rate of 1 frame per 3 seconds, and digital data were collected at a frame rate of 1 frame per second on a minicomputer. The subsequent static photoscintigraphs of the liver were obtained in the anterior and posterior projections utilizing the same high resolution collimator. Two million counts were collected for each view. For the posterior view, the camera was placed face up under the imaging table. Lateral views were not obtained because of the patient's inability to tolerate the manipulation necessary to obtain these positions.

In the dynamic blood flow study, there was good visualization of the abdominal aorta down to the bifurcation. No aneurysmal dilatation of this vessel was appreciated. A uniform perfusion

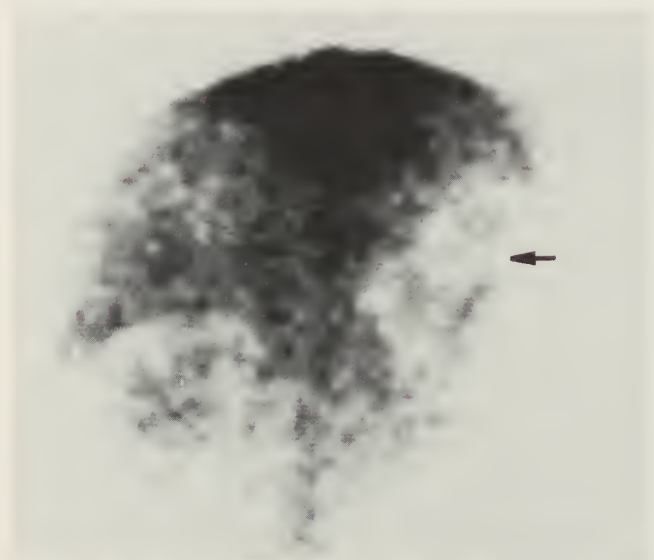


Figure 1. Anterior projection of dynamic perfusion study of abdomen — arrow indicates defect in vascular bed of spleen.

of the liver was found, but by 15 seconds in the blood flow study a defect in the vascular bed of the spleen was recognized. No definite evidence for extravasation of the radiotracer into the abdominal cavity was found (Fig 1).

The subsequent static photoscintigraphs of the liver and spleen revealed the liver to be of normal size and configuration. There was a uniform distribution of the radiotracer throughout the liver without either linear or circumscribed defects. The upper pole of the spleen was found to be dilated with an irregular photon deficient area occupying much of the upper two-thirds of the organ. Only the tapered lower pole of the spleen was well visualized (Figs 2 and 3).

Since the body blow sustained by the patient could easily have traumatized the left kidney, it

was elected to evaluate the patient's renal status. This was accomplished by leaving the patient in the supine position with the camera underneath the imaging table faced so that a renal blood flow



Figure 2. Posterior projection — static image of liver and spleen — arrow indicates defect in superior pole of spleen.

study and renal imaging could be performed. For this evaluation, 10 mCi of ^{99m}Tc glucoheptonate administered intravenously were used. Analog data and digital data were both collected at a rate



Figure 3. Computer enhanced image of Figure 2.

of 1 frame per 2 seconds. The subsequent static photoscintigraphs of the kidneys were obtained at 1 minute, 3 minutes, 5 minutes, and 15 minutes following the administration of the radiotracer. Only 20 seconds were required to collect over a

million counts for each of the static studies.

The resulting renal blood flow study revealed simultaneous and equal perfusion of the kidneys. No defect in the vascular bed of either kidney was found (Fig 4).

The subsequent static images of the kidney showed both kidneys to be of normal size and configuration. No defect was noted in either kidney. Importantly, the upper pole of the left kidney was found to be in close approximation to the lower pole of the spleen, and no photon deficient halo or ring was found surrounding the left kidney. The scintigraphic appearance of the kidneys did not change during the 15 minute observation period (Fig 5).

Surgical consultation was requested while the

through a generous midline incision. Approximately 1,500 ml of clotted blood were removed. Minimal bleeding from tears in the capsule was observed around the hilar area of the spleen and from a 3 cm rent in the upper pole of the spleen. Bleeding was readily controlled by pressure, and the bleeding sites were treated with Avitene.* It was elected to preserve the spleen, since bleeding had been stopped and no changes in the size of the spleen could be seen. The wound was closed, and the patient was brought to the Surgical Intensive Care Unit.

The patient remained alert, and his vital signs were stable. Urinary output was excellent. Hb was 13.2 g and Hct 38.6 per cent. However, within two hours after his arrival in the Intensive Care

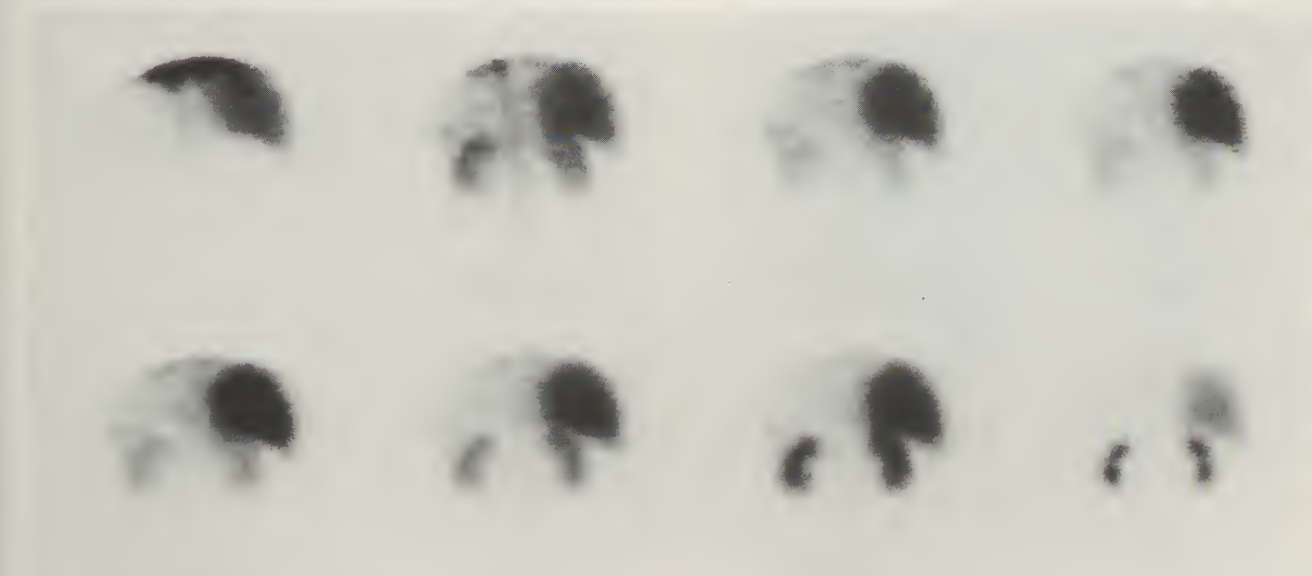


Figure 4. Posterior projection — computerized resume of 15 minute renal perfusion and excretion study.

patient was still on the Nuclear Medicine Service. On the assumption that there had been an intraabdominal hemorrhage, two large bore intravenous were started. A Foley bladder catheter was also put in place.

An abdominal paracentesis was performed upon the patient's return to the Acute Care Unit. The aspirate indicated that there had been intraabdominal bleeding. The laboratory reported an Hct of 45.8 per cent and a Hb of 15.4 g. The white blood count, differential, and platelet count were within normal limits. Urinalysis was negative for occult blood, and the amylase content was within normal limits.

Subsequently, the patient was transferred to the operating room. The abdomen was entered

Unit, the patient developed tachycardia and restlessness. Repeat blood work revealed a drop in the Hb to 9.8 g and Hct to 29.1 per cent. It was apparent that intraabdominal bleeding had resumed. The patient was therefore returned to the operating room for re-exploration of the abdomen. Inspection of the spleen on this occasion revealed that the 3 cm rent noted initially in the upper pole of the spleen was actually a part of a through and through laceration. A splenectomy was performed, and the patient was returned to the Surgical Intensive Care Unit. During the day of surgery, the patient received 7 units of packed red blood cells and 8 units of fresh frozen plasma. Thereafter, he did well without evidence of an acute drug withdrawal.

* American Critical Care.

Discussion

Too often, nuclear medicine imaging procedures available for the evaluation of abdominal trauma are overlooked. Many physicians are unaware of the various studies that can be employed to evaluate the acute abdomen; the ease with which these studies can be performed; the relative safety of the procedures; the inherent flexibility of the procedures which allows the imaging procedures to be tailored to meet the condition and individual needs of the patient; and the accuracy and wealth of information that can be derived from these studies.

In the case presented, the study was commenced within 5 minutes after the patient reached the Nuclear Medicine Service. By 15



Figure 5. Posterior projection static image of spleen, liver and kidney — arrow indicates splenic defect and caret indicates close approximation of inferior margin of spleen and superior lateral margin of kidney, excluding the existence of a perinephric bleeding.

seconds into the imaging procedure there was evidence on the persistence-scope of the scintillation camera that the spleen had been severely traumatized and possibly ruptured. The lack of extravasation of the radiotracer into the abdominal cavity during the one minute abdominal blood flow study indicated that, at that moment, there was no active intra-abdominal bleeding from the spleen. By 10 minutes into the study, the lesion in the spleen was clearly defined, and the possibility of acute liver trauma had been ruled out. By one-half hour after reaching the Nuclear Medicine Service, it had been determined that both renal blood flow and the kidneys were intact. Also by this time, as a result of being able simul-

taneously to visualize the spleen and kidneys, it was possible to establish that there was no accumulation of blood in the perirenal space of the left kidney. Further, it should be emphasized that the nuclear medicine studies could have been interrupted at any time if this were warranted by the patient's clinical condition. If the situation called for such an interruption, there would have been evidence to support the existence of significant spleen damage within the first 15 seconds of the evaluation.

Wener⁶ first reported the use of scintiscanning to diagnose a subcapsular hematoma of the spleen in 1967. With application of the gamma camera and the high information density yield from ^{99m}Tc sulfur colloid⁷ to the examination technique it became possible to observe and record the pattern of arterial blood flow in the major abdominal vessels.⁸ Interfacing a computer with a gamma camera has greatly facilitated this technique. Because most of the injected ^{99m}Tc sulfur colloid is rapidly trapped within the reticulo-endothelial system, it is possible to detect spillage of the injectate into the peritoneum or gut.⁹

Once the diagnosis of splenic trauma has been confirmed, the surgeon is in a better position to decide the course of management. When nonoperative management^{10, 11, 12} is chosen to avoid the well-known serious complications of septicemia at a later date,¹³ the spleen may be evaluated repeatedly with the same or additional doses of ^{99m}Tc sulfur colloid with minimal upset and discomfort to the patient.^{14, 15, 16} This is done with acceptable radiation exposure when one considers that the alternative to scintigraphic studies is angiography.^{7, 17}

At a later date one may evaluate the patient for splenic function and for the detection of splenosis by the splenic scintiscan regardless of the manner of management.¹⁸

Summary

It is urged that early consideration be given to performing both dynamic and static ^{99m}Tc sulfur colloid scintigraphy for all cases involving abdominal trauma unless the diagnosis is made abundantly clear by physical examination and scout x-ray films of the abdomen and chest. This is especially important if fractured ribs overlie the spleen, liver, or both, or if a pleural effusion, or dependent area ecchymosis is found. When pain persists or if delayed signs of hypovolemia de-

velop, visceral injury should be considered. Should the trauma involve the region of either kidney, or if gross or microscopic hematuria is present, a few minutes of additional scanning

time performed with appropriate renal imaging agents will enable the detection of possible renal fracture, perinephric hematomas, and urine leaks from ureters or bladder.⁴

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Gearing Up for Retirement

Thursday, April 21, 1983
Providence Marriott Inn

Because a rewarding retirement takes financial, psychological and even vocational planning, the Rhode Island Medical Society is sponsoring this intensive one-day workshop for physicians and their spouses. Conducted by the Department of Practice Management of the American Medical Association, the workshop will address how to wind down a medical practice and gear up for a successful retirement. The following issues will be covered: tax issues

involved in leaving or selling a practice; estate planning; how to review present finances and estimate future expenses; post-retirement investments; the psychological impact of retirement; and other planning problems.

Even if retirement plans are not in the immediate future, physicians and their spouses will find the workshop to be valuable because of the long-range implications of many retirement decisions.

For additional information and registration forms, please call Wendy J. Smith at 401/331-3207.

The Year in Medicine: 1982

The impact that technology has made on the art of medicine took a leap forward in 1982 as new methods of looking inside the human body and healing its ailing parts came out of the laboratory and into the hands of physicians. Perhaps in no other single year have the strides in medicine received headline attention as often as they have in the past year.

The following may be cited among the events in medicine that have made 1982 so notable:

Artificial heart. The surgery to implant the polyurethane plastic and aluminum Jarvik-7 heart into Barney Clark began late on the night of December 1, but it was not until early the next day that the mechanical pump was empowered by compressed air to support a human life. The historic event came one day short of the fifteenth anniversary of the first human heart transplantation.

Nuclear Magnetic Resonance (NMR). This technology and the equipment designed to apply it have the potential of revolutionizing the way physicians visualize the interior of the body. NMR works with magnets instead of x-rays, eliminating the need for injected contrast dyes and radioactive solutions on which older, established diagnostic techniques depend. The images are similar to those made by CAT scanners, in the sense that they are assembled with the aid of a computer and represent a cross-sectional view through an organ or an area of the body. NMR, however, is capable of displaying a kind of biochemical blueprint of cellular activity as well as pictures that are sharper and more detailed than those produced by a CAT scanner.

Workers in the field predict that NMR will detect certain diseases at an earlier stage than is currently possible. Instead of showing physical alterations within the body, as conventional x-rays do (even when they are enhanced by a computer as CAT scanner images are), NMR can show the actual chemical imbalance that may pre-

cede structural change.

NMR imaging may eventually permit the visualization of minimal fat deposits on blood vessel walls before they become the focus for atherosclerosis; detect small cancers that have metastasized from the primary site; measure the blood flow rates in specific locations in the brain to identify patients at risk for developing strokes; monitor the results of treatment without risking excessive radiation; and examine the spinal column without injecting dye.

Medical lasers. From their original use by ophthalmologists to weld detached retinas and seal leaking blood vessels in the eye, lasers continue to make inroads to areas of the body only the scalpel went before. Neurosurgeons have used them to excise tumors; dermatologists focus laser beams to eradicate skin cancer; and gynecologists have found lasers useful in treating some diseases of the female genital tract.

A new type of laser, pioneered in Europe and called the YAG laser (for neodymium yttrium aluminum garnet), has been used with increasing frequency to seal bleeding ulcers. On the forefront of laser technology is the laserscope, in which the light is transmitted through a flexible catheter carrying fiberoptic fibers. In experimental studies, a multi-channel catheter — with a laser beamed through one channel — is being tested as a way to vaporize clotted material in the coronary arteries.

Streptokinase. This clot-dissolving enzyme, long available for other purposes, was approved by the Food and Drug Administration in 1982 for treating myocardial infarctions. Given to appropriate patients in the early stages of a heart attack, the drug holds the potential for restoring circulation to a segment of heart muscle and preserving its viability.

Cyclosporin. Much of the credit for the improvement in survival after organ transplantation — and the resurgence of transplantation surgery — is due to this drug, which was originally isolated

Prepared from a summary released by the American Medical Association.

(Continued on page 151)

Locked-In Syndrome Caused by a Metastasis

*This Is a Rare Cause of a Condition
Frequently Misdiagnosed as Coma*

Srecko Pogacar, MD
Pasquale F. Finelli, MD
Ho Yong Lee, MD

Locked-in syndrome (LIS) consists of quadriplegia, mutism with preserved consciousness, and the ability to communicate intelligently by using intact vertical eye movements and blinks of the eyelids.

Interestingly, the clinical picture of LIS was described in 1844 by French writer Alexander Dumas in his popular romance *The Count of Monte Cristo*¹ one hundred and twenty-two years before Plum and Posner coined the term "locked-in" syndrome.²

Most cases of LIS are caused by an infarction of the basis pontis.^{3, 4, 5} Rarely LIS is due to a solitary pontine abscess,⁶ presumed brain stem encephalitis,⁷ trauma,^{8, 9} bilateral midbrain infarcts,¹⁰ central pontine myelinolysis,¹¹ pontine hemorrhage,¹² assumed air embolism,¹³ heroin abuse,¹⁴ and diazepam toxicity.¹⁵ A case of LIS has been described caused by pontine reticulum

cell sarcoma¹⁶ and another related to fibrillary astrocytoma of the pons.¹⁷ The syndrome also has been observed in a 42-year-old woman with multiple sclerosis.¹⁸ To our knowledge, this is the first reported case due to a pontine metastasis.

Case Report

A 67-year-old widow was admitted to the hospital for evaluation of bilateral flank pain, nausea, vomiting, loss of weight, urinary retention, and increasing abdominal girth.

Thirteen years prior to her admission she had had a Billroth II gastrojejunostomy performed for recurrent gastric ulcer. She also had a history of several episodes of pneumonia. She formerly drank heavily and smoked 1 to 2 packs of cigarettes daily for forty years. One brother had lung tuberculosis while a second died of Hodgkin's disease and a third of lung carcinoma. A sister had carcinoma of the larynx.

Physical examination on August 7, 1980 revealed a right lower abdominal quadrant mass and a positive fluid wave test. Paracentesis yielded ascitic fluid which showed a protein content of 4.5 g/100ml and lactate dehydrogenase of 1460 IU. Cell block showed a moderately well-differentiated adenocarcinoma with papillary features negative for mucin stain. Erythrocyte sedimentation rate was 49 mm. Chest x-ray film showed a 3 cm nodular density in the left upper lung field and several small densities throughout both lung fields. Intravenous pyelography demonstrated some lateral deviation of the ureters in the pelvis, but no evidence of obstruction. Barium enema revealed an intact rectosigmoid and colon.

The patient received chemotherapy: Adriamycin® 75 mg and Cytosan® 750 mg in-

Srecko Pogacar, MD, Clinical Associate Professor of Pathology (Neuropathology), Division of Biology and Medicine, Brown University, Providence, Rhode Island; Lecturer on Neuropathology, Harvard Medical School, Boston, Massachusetts; and Clinical Director, General Hospital, Rhode Island Medical Center, Cranston, Rhode Island.

Pasquale F. Finelli, MD, Assistant Professor of Neurology, Division of Biology and Medicine, Brown University, Providence, Rhode Island; and Neurologist, Veterans Administration Medical Center, Providence, Rhode Island.

Ho Yong Lee, MD, Chief Pathologist, General Hospital, Rhode Island Medical Center, Cranston, Rhode Island.

travenously, repeated every three weeks.

Early in February 1981, a mild weakness of her left upper and lower extremities was observed, which progressed in the course of a month into almost complete pure motor flaccid left hemiplegia with bilateral Babinski, dysarthria, dysphagia, and weakening of her voice. Technetium brain scan and bilateral carotid angiographies in April 1981 had been negative. Metrizamide CAT scan

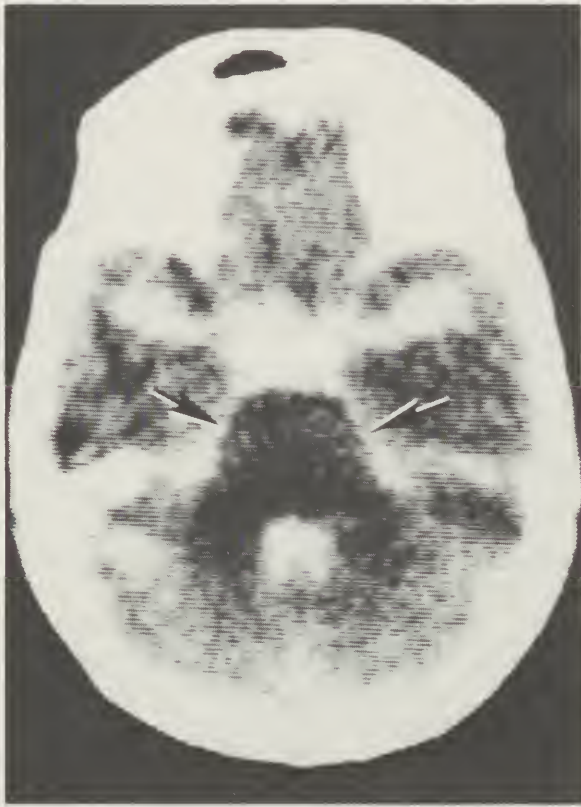


Figure 1. Metrizamide CAT scan showing mildly enlarged pons (arrows) compressing the prepontine cistern.

showed a mildly enlarged pons with compression of the pontine cistern (Fig 1). Cerebrospinal fluid was unremarkable, as were serum electrolytes.

Prednisone administration was begun. Her swallowing improved, as did the weakness of her left extremities. For a short while she was able to walk again. When examined in May 1981, she was alert, and oriented in time, place, and situation. There was left lower facial weakness, but there was good retraction of the angles of her mouth upon laughing. She spoke softly and slowly. There was very limited elevation of the soft palate on phonation. Gag reflex could not be elicited. Tongue movements were slow and weak. She could protrude her lower teeth, but had poor lateral movements. However, opening of the jaw was strong. Extraocular movements were full

without nystagmus. Pupils and optic discs were normal. She could drag her left arm across her trunk, extend her left knee, and weakly extend her left foot. There was full range of motion of the right extremities, although they were somewhat weak. There were bilateral plantar extensor responses. She was bedridden and had stress incontinence.

EEG was normal. Carcinoembryonic antigen was 8.7 ng per ml. Neurological examination on July 6, 1981 revealed an alert woman able to follow some directions. She was able to protrude her tongue just beyond the labial margins. She could look to the left and less well to the right, with abduction of her eyes being less complete and only poorly sustained. Vertical gaze up and down was good. Pupils were small, but reacted to light. Optic discs were sharply outlined without swelling. There were no voluntary movements of the lower extremities and left upper extremity. On one occasion she adducted her right forearm. There was moderate atrophy of the dorsal in-

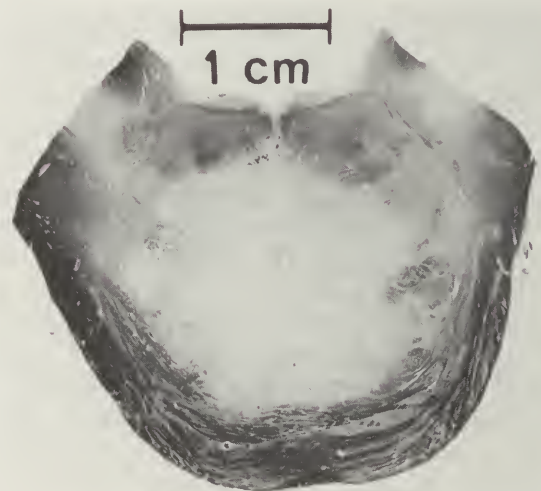


Figure 2. Horizontal section through the mid pons revealing large metastasis involving almost entire base of the pons and ventral portion of the pontine tegmentum. Weil's myelin stain.

terosse, more on the left than on the right. No atrophy of the thenar or hypothenar eminences was noted. Anterior tibial muscle groups were atrophic bilaterally. Biceps reflexes were 2+ bilaterally, triceps 1½+, knee jerks 1½+. Achilles reflexes could not be elicited; there were bilateral plantar extensor responses. Testing of sensation was not satisfactory. No fasciculations were seen.

In August 1981 the patient had frequent episodes of forced crying and was not able to swallow. The patient was alert, but not able to move or

speaking. She had flaccid quadriplegia but was able to communicate intelligently by the blinking of her eyes. Finally, she became lethargic and died on August 30, 1981, of bronchopneumonia at the age of 68.

Pathologic Findings

General: There was an adenocarcinoma of the upper lobe of the left lung with multiple small metastases to all lobes of both lungs, left parietal

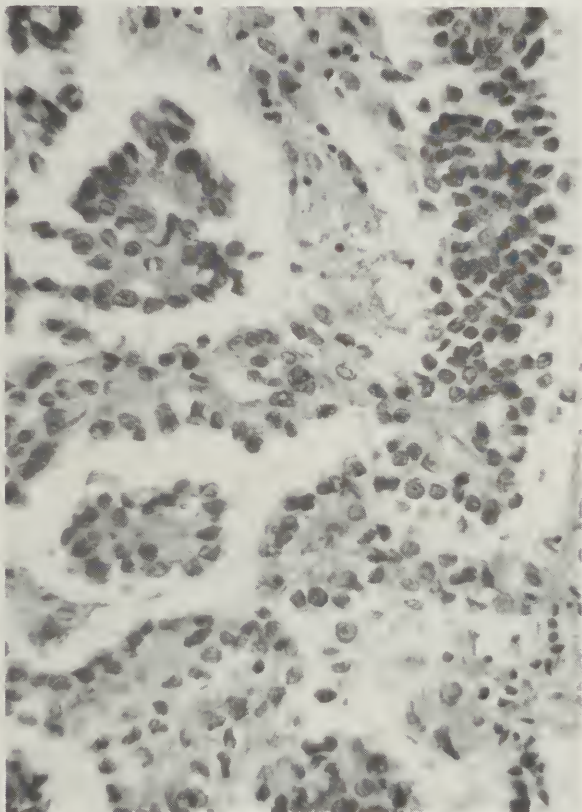


Figure 3. Islands of malignant cells resembling tumor cells in other organs. H&E stain $\times 364$.

pleura, omentum, and mesentery. There was severe bilateral bronchopneumonia and a serosanguinous pleural effusion on the left. Appendix and both tubes and ovaries had been removed surgically. There was an atrophic uterus with two small leiomyomas. There were extensive fibrous adhesions in the abdominal cavity.

Neuropathologic: The brain weighed 1200 g and appeared normal on external inspection except for a mildly enlarged pons. Serial coronal sections at 1 cm intervals through the cerebral hemispheres revealed several less than 4 mm tumor deposits in the cerebral cortices of the frontal lobes. One of these cortical metastases invaded the adjacent leptomeninges. An 8 mm spherical metastasis was found in the left precentral gyrus.

Another metastasis completely destroyed the right hippocampus at the level of the mammillary bodies. Serial horizontal sections through the brain stem and cerebellum revealed a 2 cm by 1½ cm tumor deposit involving almost the entire base of the pons bilaterally (Fig 2), extending from the pontomedullary junction caudally a few mm into the right cerebral peduncle rostrally, involving dorsally at the level of mid pons both medial lemnisci and partly the pontine reticular formation. Microscopically, a very thin rim of edematous but otherwise normal pontine tissue surrounded the sharply defined tumor. The islands of malignant cells (Fig 3) resembling the tumor cells in other organs were observed on the periphery of the extensive central necrotic zone of the tumor.

Discussion

Ventral pontine metastasis, solitary or as a part of multiple central nervous system deposits, appears to be rare. We were able to find in the literature only one similar case of metastasis to the basis pontis¹⁹ causing somnolence, tetraparesis, and anarthria with full ocular motility. Strictly speaking, somnolence is not part of this syndrome. However, in this location it is not unexpected, due either to disturbed body metabolism or related to the involvement of the adjacent reticular substance by the edema or by the extension of the neoplasm itself. Despite the somnolence, the clinical features of the case described by Weiss and Richardson (Case 2)¹⁸ strikingly resembles the LIS, however, this association was not commented on by the authors.

The progress of neurological deficit through a month or more helps us differentiate between the tumor and the more common pontine infarct causing LIS. Multiple tumor deposits in or outside the central nervous system help to lead to the diagnosis of metastasis.

LIS of Central Pontine Myelinolysis patients evolves usually in a time span of 36-48 hours; there is also, as a rule, marked electrolyte disturbance. CT scan may show a low density pontine lesion but no enlargement of the pons accompanied by compression of the pontine cistern as shown after injection of metrizamide into subarachnoid space in our case.

Acknowledgments

We are grateful to John Strom, MD for the clinical data that made this report possible. We thank Dr. Gloria Aranki for photographic assistance, and also we thank Mrs. Anna Marie Verdane for excellent secretarial help.

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Have You Heard? . . .

Cobe Laboratories, Lakewood, Colorado, recently announced introduction of the first membrane-based therapeutic plasma exchange (TPE) system to be approved by the Food and Drug Administration (FDA). Developed to treat a number of debilitating disorders, including Goodpasture's syndrome, myasthenia gravis, familial hypercholesterolemia, multiple myeloma, multiple sclerosis, and systemic lupus erythematosus, the system has been undergoing clinical trials at five major medical centers in the US and Canada since 1979.



In February Abbott Laboratories Hospital Products introduced a new induction anesthetic which offers better security for surgical patients at risk because of heart, circulatory, or lung disorders. Recently approved by the FDA, Amidate® (etomidate injection) is being marketed nationally for induction of anesthesia by intravenous injection. It can be used to supplement subpotent anesthetics, such as nitrous oxide in oxygen, and maintain anesthesia for short operative procedures. Amidate® produces a rapid onset of hypnosis (usually within one minute) and has a short (three-five minute) duration of action.

A nonbarbiturate imidazole derivative without analgesic activity, Amidate® is compatible with muscle relaxants, premedication drugs, and inhalation anesthetics currently in use.



Researchers at International Paper Company have developed a new material that can stop difficult to control bleeding in minutes. The absorbable hemostat, IP-760®, has been clinically tested at four major clinical centers. IP-760® is a patented spongelike material derived from potato amylase and used to check bleeding of internal organs during surgery. When applied with pressure, it stops bleeding in one to several minutes, depending on the extent of the wound and vasculature involved. It may be left in the body after the patient is sutured and is substantially absorbed by the body within two to four weeks after surgery.

Clinical studies are continuing under an FDA investigational device exemption. International Paper has licensed the device to Lederle Laboratories. The product currently is not available to physicians pending FDA approval.

(Continued on page 156)

The Year in Medicine

(Continued from page 146)

from fungi in soil samples from Wisconsin and Norway. Cyclosporin suppresses the production of cells called T-lymphocytes that are in the vanguard of the body's natural attack against foreign tissue — even when that tissue is beneficial as it is in the case of transplantation.

Synthetic Human Interferon. Gene-splicing techniques have led to the preparation of what promises to be an ample supply of interferon. In early clinical use, the synthetic variety has shown anticancer activity in patients with non-Hodgkin's lymphoma, breast cancer, chronic lymphocytic leukemia, Hodgkin's disease, and melanoma. The synthetic interferon used in the first of the studies in advanced cancer was produced by a laboratory strain of *Escherichia coli*. As it divides and redivides into millions of cells, each bacterium serves as an interferon factory, manufacturing interferon that is identical in structure and biologic activity to the one produced by human white blood cells.

Oncogenes. The revival of a ten-year-old hypothesis is producing some of the most promising research ever into the mechanism of cancer. The hypothesis and the related origin of the term oncogene (for cancer-causing gene) goes back to work done in the 1960s and early 1970s when certain viruses were found to have genes that cause cancer. The hypothesis held that infection of animal cells by such viruses leads to the incorporation of the so-called oncogene into the infected animal cell, which at some later date can become malignant.

This hypothesis took a surprising and significant turn after research in recent years showed that oncogenes from viruses have identical counterparts in normal cells. It is now believed that the viral cancer gene — the oncogene — was captured from an animal cell sometime in the evolutionary past. In the current scenario, normal animal and human cells are thought to house oncogenes whose normal function is unknown. Under certain circumstances, it is postulated, these oncogenes could become activated and lead to cancer.

Hazards of salt. A coalition of health organizations, federal agencies, and food processors joined forces and found a voluntary method by which reliable information about the sodium content of packaged foods could be made available to physi-

cians and to their patients whose daily sodium intake must be limited because of high blood pressure or for other reasons. Now many food products have their sodium content clearly marked on the label.

Lyme disease. The mystery of an illness that came to light in the summer of 1975 and was named after the Connecticut town where the first known outbreak occurred has been traced to a bacterium transmitted by the bite of a tick. Lyme disease or fever has been reported in the West, the Middle West, and the East in the last six years. Its symptoms include aches and pains and a high fever that can lead, weeks or months later, to debilitating arthritis and sometimes meningitis. After years of searching, medical investigators identified the culprit as a spirochete susceptible to penicillin.

AIDS. An acronym for acquired immune deficiency syndrome, it is the official name for a peculiar mixture of diseases that was first detected in 1981. AIDS has reached epidemic proportions in the 18 months since it was recognized as a new disease entity. It is known to have killed more than 300 people, making it more deadly than Legionnaires' disease and toxic shock syndrome combined. Among the 800 or so individuals known to have been stricken by AIDS are at least one infant who died, a number of heterosexual women, some hemophiliacs, more than 30 Haitian immigrants, and numerous male homosexuals, who are in the largest group of AIDS victims.

The syndrome is the first known outbreak ever of a disorder having the ability to wipe out the immune system's defenses against disease, allowing a formerly rare type of cancer (Kaposi's sarcoma) and opportunistic infections to overwhelm the body. As the search for the cause intensified late in 1982, experts at the Centers for Disease Control focused their attention on identifying an infectious agent — such as a bacterium, a virus, or other type of microorganism — as the possible source of the disorder.

Elimination of measles. An intensive immunization program against measles, began in 1962 when measles vaccine became available, has led to the virtual elimination of this childhood disease in the United States. The only cases of the disease that have occurred during 1982 were spread by individuals who brought measles infection into the country from abroad. This led to a conviction that immunization of those still unprotected must continue. ■



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manage stress, don't smoke,
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REPORT OF THE HOUSE OF DELEGATES

September 22, 1982

A **regular meeting** of the House of Delegates of the Rhode Island Medical Society was held Wednesday, September 22, 1982 in the auditorium of the Rhode Island Medical Society.

The meeting was called to order at 2:15 pm by the Vice Speaker of the House, Peter D. T. Clarisse, MD, who asked members present to sign the attendance sheet at the door in place of a roll call.

Members present were:

Officers: Melvin D. Hoffman, MD, President; Charles P. Shoemaker, Jr., MD, President-Elect; Kenneth E. Liffmann, MD, Treasurer.

Delegates:

Kent County Medical Society: John C. Osenkowski, Fred T. Perry, Thomas A. Vest, MDs.

Newport County Medical Society: Thomas Cahill, MD.

Pawtucket Medical Association: David Carter, Robert E. Curran, Richard Wang, MDs.

Providence Medical Association: Michael S. Barrett, William M. Colaiaice, Frances P. Conklin, John J. Coughlin, Richard D. Frary, Joseph R. Gaeta, Robert A. Indeglia, Betty B. Mathieu, Richard G. Mignacca, Kenneth B. Nanian, Elliot Perlman, S. Frederick Slafsky, Stanley J. Stutz, Albert F. Tetreault, Joseph R. Tucci, Richard B. Turner, Johannes Virks, Louis Vito, Jr., Raymond W. Waggoner, Jr., Robert J. Westlake, Elihu Wing, Jr., MDs.

Washington County Medical Society: Erwin Siegmund, MD.

Woonsocket District Medical Society: John C. Baxter, Paul C. Hessler, MDs.

Specialty Society Representatives: Henry F. Ize-man, MD, Rhode Island Society of Internal Medicine; John J. Coughlin, MD, Rhode Island Section, American College of Obstetricians and Gynecologists; Stephen J. D'Amato, MD, Rhode Island Society of Emergency Physicians; Paul J. M. Healey, MD, Rhode Island Chapter, American College of Surgeons; Paul Hessler, MD, Rhode Island Society of Nuclear Medicine; Robert Westlake, MD, Rhode Island District Branch, American Psychiatric Association.

Vice Speaker: Peter D. T. Clarisse, MD.

Members Ex Officio: Seebert J. Goldowsky, MD, Editor-in-Chief, *Rhode Island Medical Journal*; John J. Cunningham, MD, Delegate, American Medical Association; Herbert F. Hager, MD, Alternate Delegate, American Medical Association.

Staff present were: Norman A. Baxter, PhD, Executive Director; Karen J. Challberg, Assistant Executive Director; Brian R. Clarke, Assistant Executive Director.

Members absent were:

Bristol County Medical Society: Frank Capizzo, MD.

Kent County Medical Society: Klaus F. Haas (excused), Vincent R. Iacono, William J. O'Rourke, MDs.

Newport County Medical Society: Edwin J. Henrie, MD.

Pawtucket Medical Association: Mohammad A. Khan, Mary-Elaine Rohr, Peter R. Simon, MDs.

Providence Medical Association: C. John Brex, Louis M. Damiani, Jr., Carl F. DeLuca (excused), Frank G. DeLuca, Ronald M. Gilman (excused), Arnold H. Herman, Harry M. Iannotti, Donald G. Kaufman, Joseph A. Latina, Mary D. Lekas (excused), Anthony F. Merlino (excused), Julius C. Migliori (excused), Peter T. Nigri (excused), Jay M. Orson, Herbert Rakatansky, Robert W. Riemer, Raymon S. Riley, Michael A. Rocchio, Rajnikant K. Shah, Conrad W. Wesselhoeft, Jr., MDs.

Washington County Medical Society: Pasquale J. Celestino, John J. Walsh, MDs.

Woonsocket District Medical Society: Orazio Basile, Augustine Colella (excused), MDs.

Specialty Society Representatives: Anthony Merlino, MD, Rhode Island Orthopedic Society (excused); Daniel J. Hanson, MD, Rhode Island Radiological Society (excused); Carl F. DeLuca, MD, Rhode Island Chapter, American Academy of Pediatrics; Louis Hochheiser, MD, Rhode Island Chapter, American Academy of Family Physicians; Robert Lev, MD, Rhode Island Society of Pathologists, Inc.; Augustine McNamee, MD, Rhode Island Society of Anesthesiologists;

Arthur B. Kern, MD, Rhode Island Dermatological Society; Guy A. Settipane, MD, Rhode Island Society of Allergy; Robert L. Bahr, MD, Rhode Island Ophthalmological Society; William Wexler, MD, Rhode Island Otolaryngological Society (excused); Frank Schaberg, MD, Providence Surgical Society; Walter Cotter, MD, Rhode Island Society of Neurosurgery; Robert Baute, MD, Rhode Island Thoracic Society (excused); Jorge Benavides, MD, Rhode Island Thoracic and Cardiovascular Society; Guy Gefroy, MD, Rhode Island Neurological Society.

District Society Presidents: Thomas M. Drew, MD (Bristol) (excused); Edward Asprinio, MD (Kent); Elie J. Cohen, MD (Newport); Constantine G. Demopoulos, MD (Pawtucket); Herbert Rakatansky, MD (Providence); Douglas Rayner, MD (Washington); Alban J. LeBlanc, MD (Woonsocket).

Speaker of House: Frank G. DeLuca, MD.

Members Ex Officio: Joseph E. Cannon, MD, Director, Rhode Island Department of Health; William J. MacDonald, MD, Chairman of Board, Blue Shield.

Approval of Minutes

Dr. Albert Tetreault presented a suggested correction to the minutes of the meeting of Wednesday, March 24, 1982. He recommended that section 6 be amended to read:

“(6) *Physicians Assistants Legislation.* A proposed resolution, in several parts, was presented by Dr. Albert Tetreault that the House of Delegates oppose House bill 82-7695 recently introduced in the Rhode Island legislature.”

Dr. Tetreault said that the rest of section 6 as drafted referred to part B of his resolution which was submitted in writing but not introduced on the floor. Only part A was introduced on the floor.

Action: A motion was made, seconded, and voted to approve the minutes of the meeting of March 24, 1982 with the correction suggested by Dr. Albert Tetreault.*

Dr. Tetreault recommended the following corrections to the minutes of the meeting of May 3, 1982:

page 2, line 24: amend “15 delegates” to read “15 or more delegates”

page 2, line 35: amend “opposing” to “not supporting”

page 3, line 35: amend “Society” to “PAs”

page 4, line 13: amend “opposing” to “not supporting”

Action: A motion was made, seconded, and voted to approve the minutes of the meeting of May 3, 1982 with the corrections suggested by Dr. Albert Tetreault.*

Action: A motion was made to approve the minutes of the meeting of June 7, 1982 as submitted.*

Report of the Treasurer

In presenting the proposed budget for 1983, Dr. Liffmann noted that if the budget is accepted, including a dues increase as recommended in 1981, there should not be a deficit in 1983.

In response to a question concerning the allowance for an expenditure for an actuary at JUA hearings in 1983, Dr. Liffmann explained that the Council authorized this expenditure at its August 31, 1982 meeting, and noted that this expenditure was not made in 1982. He also noted that review of data is done by the Department of Business Regulation and also the Joint Underwriting Association, as needed.

In response to a question concerning the decrease in interest income in the proposed budget for 1983 as compared with actual income for 1982, Dr. Norman Baxter, Executive Director, said that the decrease is explainable by the decrease in Blue Cross/Blue Shield health plan enrollments which allows money to the Society for investment and also some decrease in interest income from endowment funds.

Action: A motion was made, seconded, and voted to accept the proposed budget for 1983, including a dues increase of \$50 per member as recommended in 1981 (2 votes opposed).

Report of the Secretary

In the absence of the Secretary, Dr. Melvin D. Hoffman, President, presented the names of John J. Cunningham, MD and Herbert F. Hager, MD for reelection for two-year terms as Delegate and Alternate Delegate, respectively, to the American Medical Association.

Action: An action was made, seconded, and voted to reelect John J. Cunningham, MD and Herbert F. Hager, MD for two-year terms as Delegate and Alternate Delegate, respectively, to the American Medical Association.

Dr. Hoffman then presented a gold-plated medallion and a pair of cuff links cast with a mold of the Rhode Island Medical Society seal by the B. B. Greenberg Company of Providence. The

* Official minutes published in the October, 1982 issue (65:399-405)

medallion was made for the Rhode Island Medical Society for use in annual meeting ceremonies. The cuff links are a sample for a gift to outgoing presidents in place of a silver bowl.

Action: An action was made, seconded, and voted to extend the appreciation of the House of Delegates to the B. B. Greenberg Company of Providence for the casting of a medallion and cuff links with the Rhode Island Medical Society seal for annual meeting ceremonies.

The following items were discussed briefly:

Committees: Hoffman explained the five commissions which he has appointed to oversee the work of committees. The plan for the commissions was approved by the Council. The commissions will have general authority over the committees and they will report to the Council.

Cooper Property: Dr. Baxter explained the decision to accept the proposal of Kates Properties to acquire the Cooper property building, while allowing the Society to maintain title to the land and earn rental income from it. Dr. Baxter said this is a common type of arrangement and well-suited to the Society's situation with respect to the property. Dr. Goldowsky commended this plan as a "creative solution."

Staff pension plan: In response to Dr. Albert Tetreault's request for an explanation, Dr. Baxter, explained the Simplified Employee Pension Plan (SEPP) approved for Rhode Island Medical Society staff in place of the former pension plan.

Recommendations from the Council

There was considerable discussion of the Council's recommendation to establish medical student and medical resident sections in the House. Dr. Hoffman said that this would give students and residents a way to organize their views in a similar manner to that which occurs at AMA House meetings.

Committee Reports

Written reports of the Maternal Health Committee, Committee on Medical Aspects of Sports, Mental Health Committee, and RIMPAC were included in the handbook.

Dr. Richard Perry, chairman of RIMPAC, added an oral message urging members of the House to support the upcoming Medical Follies to be held September 25, 1982 at 7:30 pm, the proceeds from which will benefit RIMPAC.

Dr. Herbert F. Hager, Chairman of the Standards and Credentials Committee, reviewed the CME requirement for relicensure as presently in

effect. He also suggested that at the beginning of the next relicensure period, which begins January 1, 1983, the requirements will be reviewed for possible revision or updating.

Resolutions

Dr. Melvin D. Hoffman presented a resolution that the Rhode Island Medical Society propose an amendment to rules and regulations now being considered concerning limited medical licenses. The amendment would make physicians holding limited medical licenses subject to the same rules and disciplinary actions as physicians holding full licenses.

Action: An action was made, seconded, and voted to approve the recommendation of the President that the Rhode Island Medical Society propose an amendment to rules and regulations presently pending concerning limited medical licenses specifying that physicians holding limited licenses shall be subject to the same rules concerning their professional conduct as physicians holding full medical licenses.

Adjournment

There being no further business, the meeting was adjourned at 3:35 pm.

Respectfully submitted,
Norman A. Baxter, PhD
Executive Director
(in the absence of the Secretary)

From the That's What We've Been Saying All Along Department . . .

Review of 1,198 patients with regard to outcome and the presence of detectable ethanol in the blood as determined in the emergency room demonstrated no difference in the severity of injury in those who had been drinking and those who had not. Mortality was significantly lower in those who had been drinking.

—Ward, R.E., et al: Effects of ethanol on the severity and outcome of trauma. *Am. J. Surg.* 144:153-156, July, 1982.

Have You Heard? . . .

(Continued from page 150)

The 3M McGhan Medical Department has introduced a new posterior chamber lens for ciliary placement. It offers counterbalanced, flexible, closed-end loops designed to provide two 40-degree arcs of fixation. Designed for surgical correction of aphakia following extracapsular cataract extraction, the 3M Style 34S intraocular lens features a 0.5 mm vault designed to place the 6.0 mm optic away from the iris. Loops are heat-formed from blue 5.0 polypropylene suture material, and four 0.4 mm holes are provided for positioning and orientation.

• • •

According to the National Coffee Association, several studies have been reported in the last five years on the safety of methylene chloride, one of the materials permitted by the Food and Drug Administration for coffee decaffeination. The cumulative scientific evidence to date shows that methylene chloride, especially at the levels used to decaffeinate coffee, poses no risk to human health. During decaffeination, the substance is removed. Only a trace amount remains, substantially below the ten parts per million level permitted by the FDA. Once decaffeinated coffee is brewed, the level of methylene chloride drops to much less than one part per million.

Chapin Orator Selected

The Scientific Work and Annual Meeting Committee, chaired by Dr. Henry T. Randall, recently selected Dr. Alvan R. Feinstein to deliver the 1983 Chapin Oration. Dr. Feinstein is Professor of Medicine and Epidemiology at Yale University Medical School.

Dr. Feinstein will present the 21st Annual Charles V. Chapin Oration on Tuesday, June 7, 1983, at the Sheraton-Islander Hotel, Newport, Rhode Island. The presentation is being made in

conjunction with the annual meeting of the New Hampshire Medical Society.

Mayor Vincent A. Cianci of Providence will present the city's Chapin Medallion to Dr. Feinstein.

One Hundred Years Ago

Superintendent of Health. The proposition to establish the office of Superintendent of Public Health, referred to a select committee of the Common Council, is among the most important that can engage the attention of our municipal authorities. The need of such an officer has long been felt. No one can pass through certain sections of our city without being impressed with the necessity of supervision of this kind. The office of Health Superintendent properly embraces matters that require thorough scientific knowledge and research. We hope the office will be established, and that it will be filled by some person competent to the discharge of its various duties.

. . . *The Providence Daily Journal*, June 13, 1855

Future Society Meetings

Forthcoming meetings of the Rhode Island Medical Society include:

Thursday, April 21, 1983

Gearing Up for Retirement
Providence Marriott

Wednesday, May 25, 1983

Annual Meeting
Providence Marriott

Wednesday-Thursday, May 25-26, 1983

6th Annual Perinatal Conference
Providence Marriott

Tuesday, June 7, 1983

Chapin Oration
Sheraton-Islander Hotel
Newport

For further information, please call the Society's offices at 331-3207.

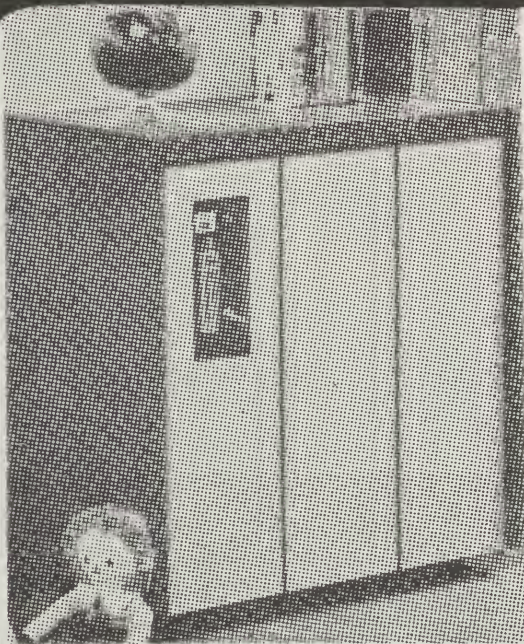
MEDICAL CLEARING BUREAU

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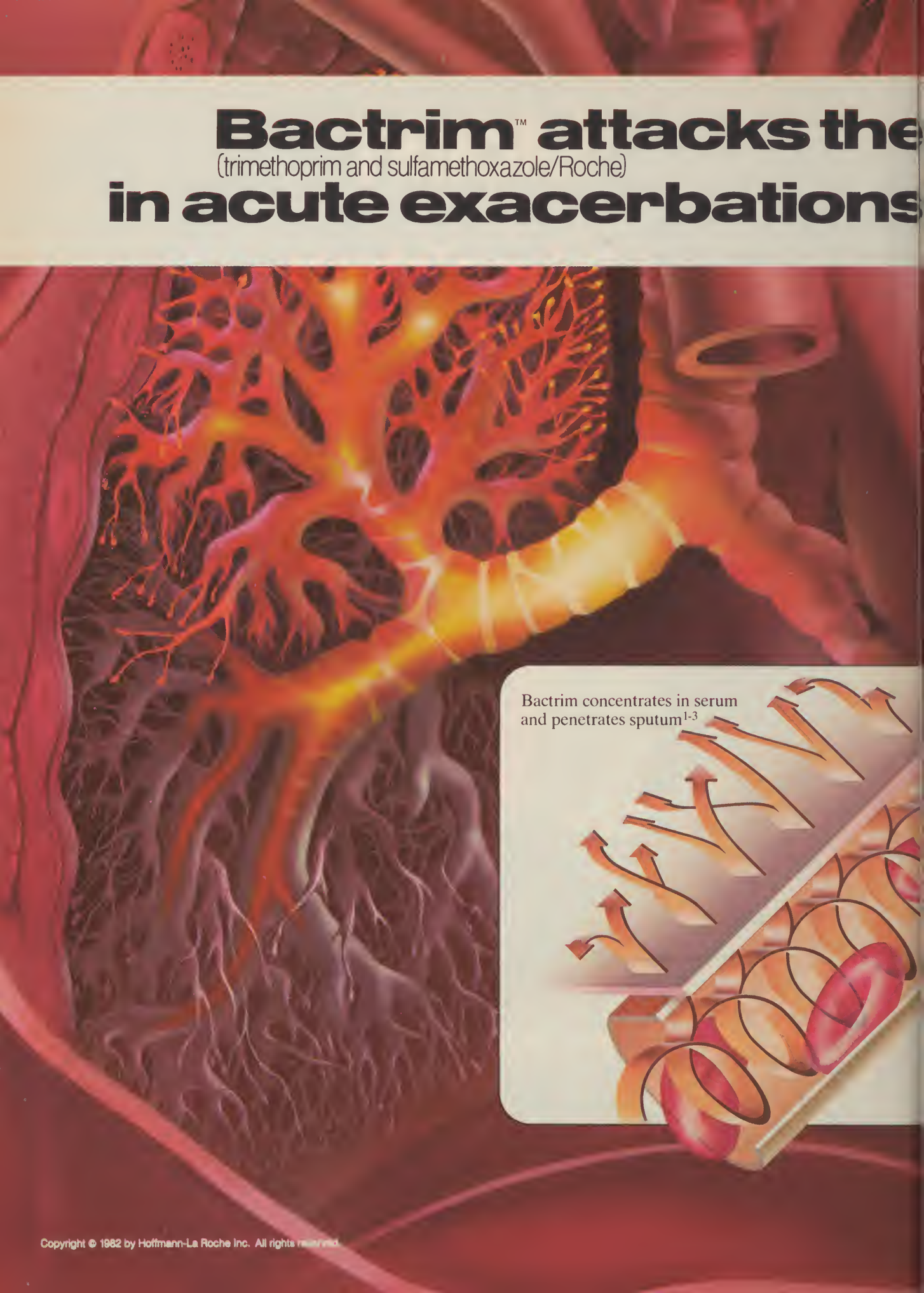
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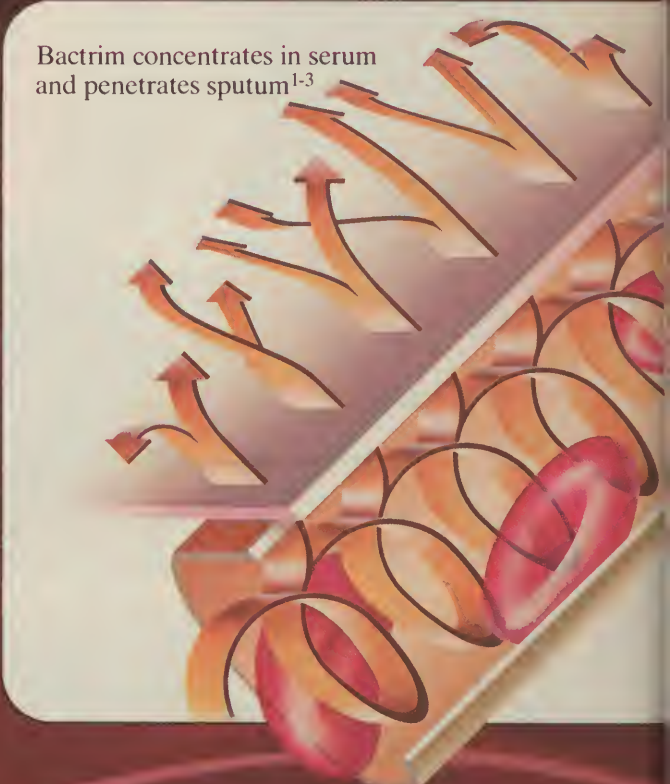
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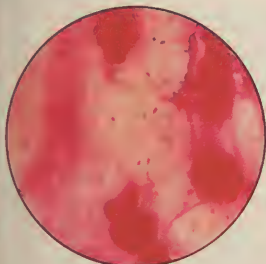
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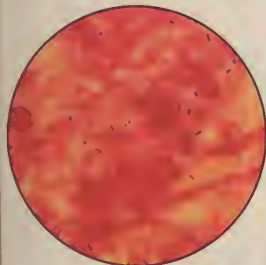
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References: 1. Hughes DTD, Bye A, Hodder P: *Adv Antimicrob Antineoplastic Chemother* 1/2:1105-1106, 1971. 2. Jordan GW *et al*: *Can Med Assoc J* 112:91S-95S, Jun 14, 1975. 3. Beck H, Pechere JC: *Prog Antimicrob Anticancer Chemother* 1:663-667, 1969. 4. Quintiliani R: Microbiological and therapeutic considerations in exacerbations of chronic bronchitis, in *Chronic Bronchitis and Its Acute Exacerbations: Current Diagnostic and Therapeutic Concepts*; Princeton Junction, NJ, Communications Media for Education, Inc., 1980, pp. 9-12. 5. Schreiner A *et al*: *Infection* 6(2):54-56, 1978. 6. Data on file, Hoffmann-La Roche Inc., Nutley, NJ. 7. Chodosh S: Treatment of acute exacerbations of chronic bronchitis: results of a double-blind crossover clinical trial, in *Chronic Bronchitis and Its Acute Exacerbations: Current Diagnostic and Therapeutic Concepts*. *Op. cit.*, pp. 15-16. 8. Chervinsky P: Double-blind clinical comparisons between trimethoprim-sulfamethoxazole (Bactrim™) and ampicillin in the treatment of bronchitic exacerbations. *Ibid.*, pp. 17-18. 9. Dulfano MJ: Trimethoprim-sulfamethoxazole vs. ampicillin in the treatment of exacerbations of chronic bronchitis. *Ibid.*, pp. 19-20. 10. Medici TC: Trimethoprim-sulfamethoxazole (Bactrim™) in treating acute exacerbations of chronic bronchitis: summary of European clinical experience. *Ibid.*, pp. 13-14.

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For acute exacerbations of chronic bronchitis in adults due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over a single antimicrobial agent.

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PHARYNGITIS. Clinical studies show that patients with group A β -hemolytic streptococcal tonsillopharyngitis have higher incidence of bacteriologic failure when treated with Bactrim than do those treated with penicillin. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

Precautions: *General:* Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function. Bactrim may prolong prothrombin time in those receiving warfarin; reassess coagulation time when administering Bactrim to these patients.

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Dosage: Not recommended for infants less than two months of age.

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Rhode Island Medical Journal

Subject, Title, and Author Index

Volume 65, 1982

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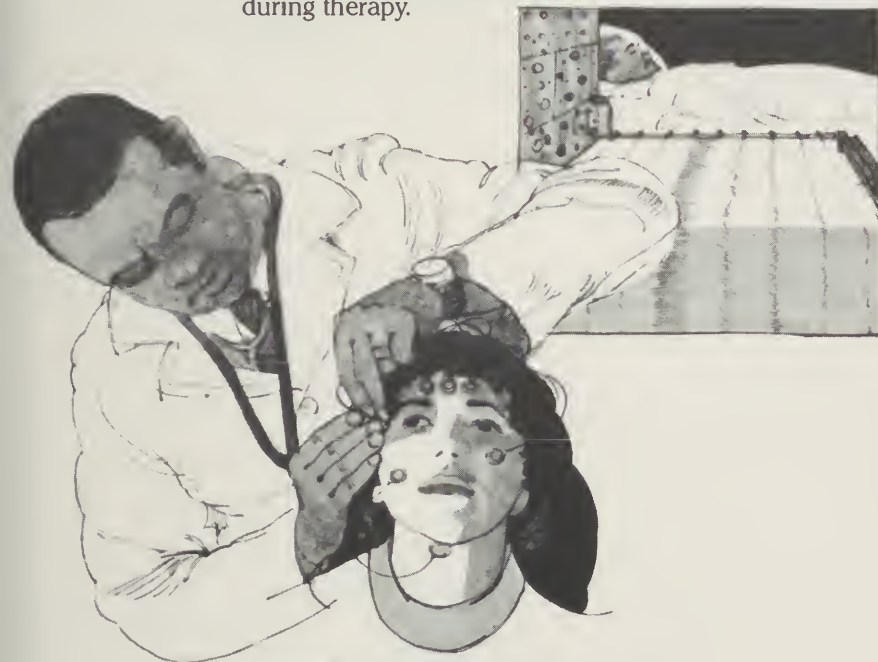
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References: 1. Kales A et al: *J Clin Pharmacol* 17:207-213, Apr 1977 and data on file, Hoffmann-La Roche Inc., Nutley, NJ. 2. Kales A: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. 3. Zimmerman AM: *Curr Ther Res* 13:18-22, Jan 1971. 4. Kales A et al: *JAMA* 241:1692-1695, Apr 20, 1979. 5. Kales A, Scharf MB, Kales JD: *Science* 201:1039-1041, Sep 15, 1978. 6. Kales A et al: *Clin Pharmacol Ther* 19:576-583, May 1976. 7. Kales A, Kales JD: *Pharmacol Physicians* 4:1-6, Sep 1970. 8. Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc* 27:541-546, Dec 1979. 9. Dement WC et al: *Behav Med* 5:25-31, Oct 1978. 10. Vogel GW: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. 11. Karacan I, Williams RL, Smith JR: The

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Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdose, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, e.g., excitement, stimulation and hyperactivity.

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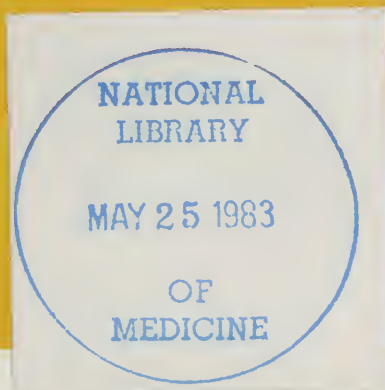
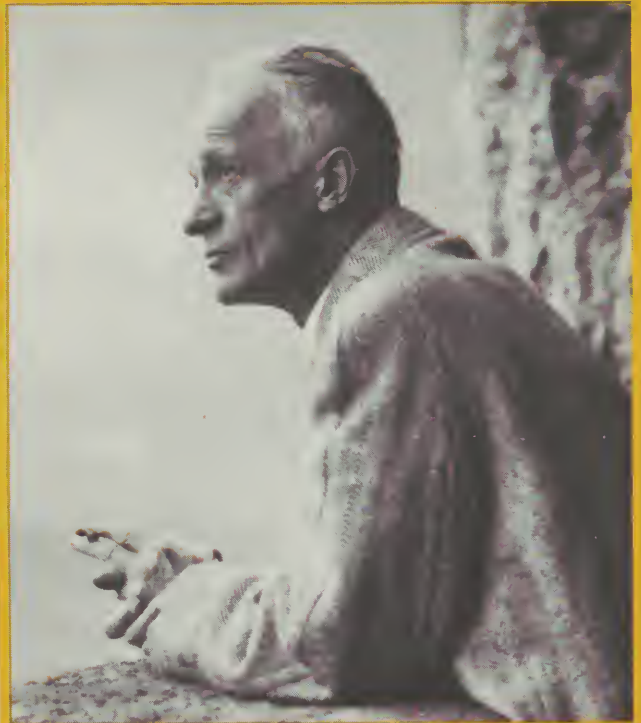
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11742B

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May 1983
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Harvey Cushing, M.D.
(1869-1939)
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Brief Prescribing Information

CONTRAINDICATIONS: Patients with severe hypertension, severe coronary artery disease, and in patients on MAO inhibitor therapy, narrow-angle glaucoma, urinary retention, peptic ulcer, during an asthmatic attack.

Hypersensitivity: Contraindicated in patients with hypersensitivity or idiosyncrasy to sympathomimetic amines or phenanthrene derivatives.

Nursing Mothers: Contraindicated because of the higher than usual risk for infants from sympathomimetic amines.

WARNINGS: Use judiciously and sparingly in patients with hypertension, diabetes mellitus, ischemic heart disease, increased intraocular pressure, hyperthyroidism, or prostatic hypertrophy. May produce CNS stimulation and convulsions or cardiovascular collapse with accompanying hypotension.

Use with caution in patients with increased intraocular pressure, cardiovascular disease, hypertension or in patients with a history of bronchial asthma. Do not exceed recommended dose.

Use in Elderly: The elderly (60 years and older) are more likely to have adverse reactions to sympathomimetics. Overdosage in this age group may cause hallucinations, convulsions, CNS depression and death.

PRECAUTIONS: General: Should be used with caution in patients with diabetes, hypertension, cardiovascular disease and hyperactivity to epinephrine. The antihistaminic may cause drowsiness and ambulatory patients who operate machinery or motor vehicles should be cautioned accordingly.

Information for Patients: Antihistamines may impair mental and physical abilities required for the performance of potentially hazardous tasks, such as driving a vehicle or operating machinery, and mental alertness in children.

Drug Interactions: MAO inhibitors and beta adrenergic blockers increase the effect of sympathomimetics. Sympathomimetics may reduce the antihypertensive effects of methyldopa, mecamylamine, reserpine and veratrum alkaloids. Concomitant use of antihistamines with alcohol, tricyclic antidepressants, barbiturates and other CNS depressants may have an additive effect.

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Possible side effects of antihistamines are drowsiness, restlessness, dizziness, weakness, dry mouth, anorexia, nausea, headache, nervousness, blurring of vision, heartburn, dysuria and very rarely dermatitis. Patient idiosyncrasy to adrenergic agents may be manifested by insomnia, dizziness, weakness, tremor or arrhythmias.

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Newsletter

May, 1983

Melvin D. Hoffman, MD, President
Norman A. Baxter, PhD, Executive Director
Wendy J. Smith, Editor

HOUSE OF DELEGATES URGES STATE TO INCREASE LEGAL DRINKING AGE

The House of Delegates recently called on the Rhode Island General Assembly to increase the state's legal drinking age from 20 to 21 years.

The House took the action in response to the increasing number of traffic accidents and deaths which result from teen-age drinking. Nearly 14 adolescents are killed and 360 injured daily in alcohol-related accidents throughout the country. Dr John O'Shea represented the Society in testimony before the House Special Legislation Committee on the matter.

In other actions at its March 16 meeting, the House:

- approved several recommendations of an ad hoc committee on the bylaws, chaired by President-Elect Dr Charles P. Shoemaker, Jr. The committee had recommended that the House: 1) review and adopt, where appropriate, proposals resulting from an AMA study of the Society's internal structure; 2) update the Society's committee structure; 3) clarify the bylaws to make the Society's operations more efficient; and 4) provide voting representation to specialty societies in the House. The proposed changes will be submitted to the membership at the annual business meeting on May 25.
- approved a proposed list of contents for a physician directory for consumers. The House endorsed the concept of a physician directory at its January meeting subject to the following conditions: 1) that the House retain final approval of the directory's format and contents; 2) that a directory be published at no cost to the Society; 3) that physician participation be voluntary; and 4) that provision be made for publication of a second edition within 18-24 months.
- acknowledged the numerous contributions of Dr William J. MacDonald to the Society. Dr MacDonald, an ex-officio member of the House representing Blue Cross/Blue Shield of Rhode Island, has served the Society for 24 years as delegate, President (1971-72), and in other capacities. The House cited Dr MacDonald's "invaluable guidance and expertise" in its resolution.
- approved an unaudited financial statement for the year ended December 31, 1982, which shows a total income of nearly \$394,000 and total expenses of \$391,626. A certified audit will be performed in the near future.

HEALTH DEPARTMENT ESTABLISHES HOTLINE

The Rhode Island Department of Health recently established a nutrition hotline as part of its Nutrition Information Center. The hotline is in operation weekdays only from 9 am to 1 pm. It is staffed by a professional nutritionist and is available to both physicians and the general public without charge.

According to a department spokesman, the hotline is intended to help people remain healthy through good nutrition and not to provide specific therapeutic diet counseling to patients with nutrition-related diseases. The hotline number is 1-800-624-2700.

RHODE ISLAND PATIENTS ARE SICKER

The Hospital Association of Rhode Island (HARI) recently reported that Medicare patients admitted to the state's acute care hospitals use the second highest level of hospital resources in the country.

The conclusion is based on an announcement by the Health Care Financing Administration (HCFA) of the "case-mix" indices for all acute care hospitals in the country. Under a complex formula, HCFA determined the level of care used by Medicare patients. All Medicare discharges were categorized first by diagnosis and the average discharge costs per diagnostic group were then determined. This was expressed as a "case-mix" index with a factor of 1.0 reflecting the national average.

Rhode Island has a weighted average index of 1.1165, the highest of all 50 states. Only hospitals in Washington, DC have a higher cost per Medicare discharge.

SOCIETY PRESENTS AWARDS TO YOUNG SCIENTISTS

Dr John Lathrop, Chairman, Science Fair Committee, presented honor awards to six junior and senior high school students for their exhibits at Expo Science 1983. The science fair, organized by the Rhode Island Science Teachers' Association and the Greater Providence Chamber of Commerce, was held March 12. Each student received a \$50 savings bond from the Society and will be recognized at the May 25 Annual Meeting.

The winners and this year's awards were: Senior Division -- Linda Girouard, St Raphael's Academy, "The Influence of Selected Plan Macronutrients on Nematode-Induced Morphogenesis of A Conoides"; Thomas Perry, Tiverton High School, "Physiological Effects of Varying Concentrations of Vitamin A in Musculus"; and Jamie Sousa, Our Lady of Fatima High School, "The Effect of Serum from Mice Transplanted with BW5147 Leukemia on Spleen Cell Blastogenesis."

Junior Division -- Amy Egerton, Cumberland Middle School, "Drosophila Genetics"; David Palagi, St Vincent dePaul Junior High School, "Lasers, Doctors' Newest Toy: Do they Save Sight?"; and David Yashar, Mary Wheeler School, "The Various Effects of Diet on Hamsters."

Dr Lathrop's fellow judges at this year's science fair were Drs Mary Ann Passero, Louis A. Colantonio, and J. Brian May.

FUTURE MEETINGS

The Society will sponsor the following meetings during the next two months. Additional information and registration forms are available from the Society's offices at 331-3207.

172nd Annual Meeting of the Rhode Island Medical Society: Wednesday, May 27, 1983, Providence Marriott Inn. The day's events will begin with the annual business meeting at 4:30 pm, followed by a press conference with Dr Frank Jirka at 5 pm. Dr Jirka will be installed as the AMA President in June. A

reception will be held at 6 pm with dinner at 7 pm. The dinner will feature the Presidential Address, installation of new officers, and entertainment by the Razzmatazz.

Sixth Annual Seminar on "Current Concepts in Fetal and Neonatal Care", Wednesday-Thursday, May 25-26, 1983, Providence Marriott Inn. Co-sponsors include the Rhode Island Department of Health; RI Chapter, American Academy of Pediatrics; RI Section, American College of Obstetricians/Gynecologists; Nurses' Section, ACOG; and Women and Infants' Hospital.

1983 Chapin Oration, Tuesday, June 7, 1983, Sheraton-Islander, Newport, 3 pm. The 1983 Chapin Oration will be presented in conjunction with the Annual Convention of the New Hampshire Medical Society. The Chapin Orator will be Dr Alvan R. Feinstein, Professor of Medicine and Epidemiology, Yale University Medical School. Society members also will be invited to attend a reception and banquet at Rosecliff Mansion that evening.

DO YOU KNOW AN IMPAIRED PHYSICIAN?

According to the AMA, treatment of physicians for alcohol addiction shows a favorable outcome in 83 per cent of cases, and treatment of physicians for drug addiction has a 95 per cent success rate. More than 70 per cent of the physicians entering treatment return to the active practice of medicine.

The Committee on Impaired Physicians, chaired by Dr Herbert Rakatansky, meets monthly. Under proposed bylaws changes to be considered by the membership on May 25, the group will become one of the Society's standing committees and formally charged with "helping physicians whose professional judgments and capacities are impaired by their difficulties with chemical dependency or other illnesses."

The Committee handles inquiries in complete confidence. If you know of a physician who needs an advocate and support in obtaining necessary treatment and help, please call or write the Impaired Physicians Committee, Rhode Island Medical Society, 106 Francis Street, Providence, Rhode Island 02903 (401/331-3207).

CONTROVERSIAL CONFIDENTIALITY BILL DIES IN COMMITTEE

The Senate Judiciary Committee took no action on a proposed bill which would substantially weaken the state's existing confidentiality statute. The committee refused to act on the bill after testimony from four physicians who said that it would destroy confidential relationships between physicians and their patients.

S. 590, introduced by Sen. John Revens and drafted by the RI Bar Association, would have permitted the release of confidential information for numerous administrative and legal proceedings. In testimony before the committee last month, Society President Dr Melvin D. Hoffman noted that all physicians deal with sensitive information from their patients. He further said that professional peer review committees could not function without the protection of confidential information. Drs Michael Ingall, Robert Westlake, and Hugo Taussig, representing the RI District Branch of the American Psychiatric Association and the Providence Mental Health Center, Butler Hospital, and the Society's Mental Health Committee respectively, reiterated Dr Hoffman's concerns and stated that the bill would be especially harmful to patients seeking help for psychiatric problems.

PRACTICE PROBLEM OF THE MONTH:

HOW CAN I RESOLVE MEDICARE PAYMENT DISPUTES?

The volume of denied Medicare claims for services is expected to increase markedly as the result of federal pressures to contain medical costs and a growing emphasis by the Health Care Financing Administration on audit and review activities.

Claims denial may result from one of the following factors:

- errors by your office staff, such as the use of inappropriate procedure codes
- mistakes by the carrier's personnel. In Rhode Island, Blue Cross/Blue Shield serves as the Medicare intermediary for the state; or
- more substantive issues, such as a determination by the carrier that your service was inappropriate or not "medically necessary."

You should follow up on all denied claims regardless of the cause. The denial letter frequently will be ambiguous. A quick phone call will help you determine the exact cause of the denial and take any appropriate corrective actions.

If the denial involves either a substantial amount of money or a questionable determination of a substantive issue, you may want to request a fair hearing. Hearing requests must be made in writing within six months of the initial payment determination. Blue Cross/Blue Shield may arrange for a pre-hearing conference to determine if the dispute can be resolved without formal adjudication. If not, a hearing will be scheduled at a mutually convenient time.

The hearing is different from comparable legal processes for the following reasons. First, it is a largely informal process without the strict rules of evidence normally associated with other legal hearings. The hearing officer will ask the carrier's representatives to justify their decision. The physician -- or his representative -- will be provided an opportunity to state why the carrier's decision should be overruled. The hearing officer may or may not request additional information from both parties.

Second, the decision of the hearing officer is final and absolute. According to Medicare law and a recent Supreme Court decision, there is no avenue of appeal. Depending on the issue under contention and the amount involved, you may want to consider consulting an attorney who is familiar with Medicare law and the corresponding regulations issued by the Health Care Financing Administration.

NEXT MONTH: The Blues

Do you have a practice management problem? Please send your suggestions for future columns to W.J. Smith, Rhode Island Medical Society, 106 Francis Street, Providence, Rhode Island 02903.

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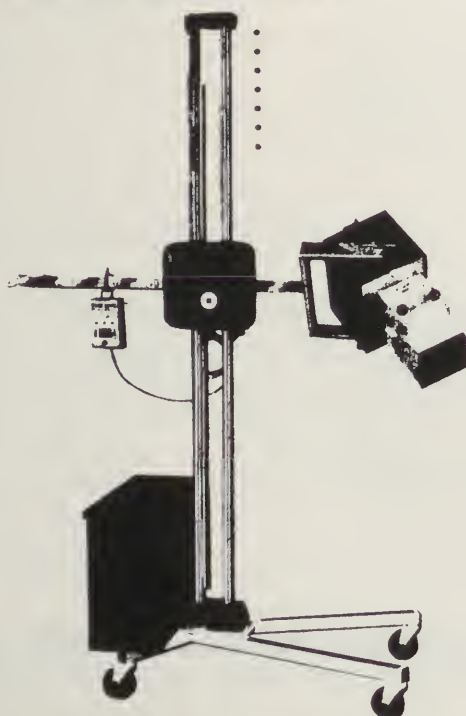
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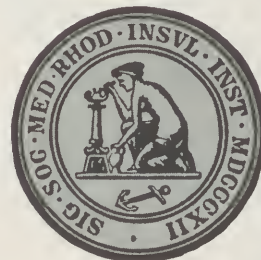
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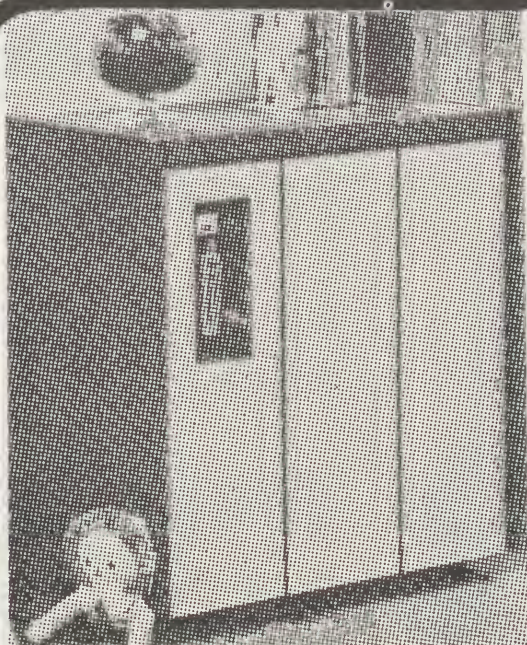
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COVER:

The cover photograph shows Harvey Cushing at the zenith of his career in 1929. In 1901, he brought from Europe and introduced into the operating room, a modification of the first clinically-practical blood pressure measuring device introduced by Scipione Riva-Rocci in Italy. It is fitting to recognize this event during May, which has been designated as High Blood Pressure Month. For more on high blood pressure, see page 181.



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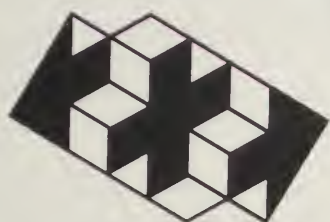
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The Rhode Island Division of the American Cancer Society is participating in an epidemiologic cancer study using either identical or fraternal twins as a model. This will permit a study of possible environmental causes of cancer.

The University of Southern California (USC) is coordinating the study, which will focus on twin pairs in which one or both siblings have cancer. Because twins usually grow up in the same household and continue to maintain a close personal relationship throughout their lifetimes, it is easier to isolate divergent aspects of their life experiences.

If your practice reflects a twin experience as described above, please write or call:

Rhode Island Division
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345 Blackstone Boulevard
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BULLETIN

High Blood Pressure Month

May has been designated High Blood Pressure (HBP) Month by the National Heart, Lung, and Blood Institute (NIHLB) of the National Institutes of Health of the US Department of Health and Human Services. Along with smoking, alcohol abuse, and automobile accidents, hypertension is one of the potential hazards whose control can have a significant effect on mortality statistics. Already past efforts appear to have lessened the incidence of stroke and heart disease.

The theme of this year's High Blood Pressure Month is "New Ways to Take Control." For community programs and health professionals who provide HBP services, the slogan conveys the concept that HBP control problems and their solutions have changed. At least four factors are involved in these changes:

1. There is a large group of individuals who need more effective HBP control services — "mild" or stratum I hypertensives with diastolic readings between 90 and 104 mm Hg.
2. Weight control, sodium control, and exercise are often effective measures in controlling established HBP.
3. Local and state governments and agencies should assume a greater role in funding HBP

control efforts as opposed to the federal government, whose available funds are diminishing.

4. New community resources can and should be recruited in efforts to control HBP. Businesses and consumer groups with an interest in food and nutrition have a role to play.

Physicians have a most important place in these endeavors. Recent reports from the Hypertension Detection and Follow-up Program demonstrate that treatment is beneficial for patients with pressures at the lower end of the scale (diastolic 94-104 mm Hg) as well as for those with higher readings. Seventy per cent of hypertensives have pressures within this range. The reduction in mortality in the "mild" cases has proved to be significant. It is important based on these studies to provide such patients with effective and sustained therapy. According to the NIHLB, "the new challenge in HBP control is improving services for those with lower-level high blood pressure."

High Blood Pressure Month is an appropriate time to take stock of our approaches to HBP management and to mobilize our resources.

Seebert J. Goldowsky, MD

Diagnosis-Related Group Based Reimbursement: Its Impact on Physicians

The most significant change in Medicare since the enactment of the original legislation in 1965 will be implemented on October 1. Congress approved the complex reimbursement system as part of its Social Security reform package. Known as diagnosis-related group (DRG)-based reimbursement, the new form of payment for hospitalized Medicare patients will have dramatic repercussions on the way hospital care is delivered and on hospital-medical staff relationships.

Briefly, a DRG is a patient classification system based on four factors: the patient's primary diagnosis, the presence or absence of surgery, any

secondary diagnosis, and the patient's age. Patients will be assigned to one of 467 DRGs which will serve as the basis for the hospital's reimbursement. Under the new system, it will make no difference — in financial terms — if the patient is hospitalized for two days or twenty.

Originally DRGs were not created to address reimbursement issues. Researchers at Yale University Medical School developed the methodology during the late 1960s as a means of utilization review. In late 1978, however, the State of New Jersey required the use of DRGs as the basis for all third-party reimbursement as a means of con-

taining medical care costs. The system in New Jersey hospitals was phased in over a three-year period.

The national DRG system will be implemented over four years. Hospital reimbursement initially will be based on a combination of national, regional, and local rates. During the first year, 25 per cent of the reimbursement will be based on a combination of national and regional rates (25 per cent national and 75 per cent regional) and 75 per cent of the hospital's own costs. During the second year, half of the rate will be based on the national-regional combination and half on the hospital's own costs. The process will continue until 1988 when Medicare payments for hospitalized patients will be calculated on a single national rate for each DRG classification.

Nine regions throughout the country will be used to calculate the regional reimbursement rate. Rhode Island hospitals will be included in the New England region for the purpose of determining standard costs per hospital discharge. Those rates will be broken down further into separate determinations for rural and urban hospitals. Under the original proposal, Newport Hospital would have been the only hospital in the state classified as "rural." However, Senators Clairborne Pell and John Chaffee successfully introduced a floor amendment to reclassify the facility as "urban." This will substantially increase the hospital's reimbursement rates from what they would have been under the earlier classification.

What does all this mean for practicing physicians? The impact of the new system on hospital care and the relationships between medical staffs and their hospitals will be pervasive. Based on the New Jersey experience, we might expect to see the following situations develop within the next few years:

First, hospitals may well attempt to reduce the amount of their resources consumed during each episode of illness. The pressures to cut the cost of ancillary services will be obvious because the reimbursement level for patients within each DRG category will remain the same — regardless of the number of tests ordered or procedures performed. Since reimbursement will not be based on a per diem rate, hospitals will try to shorten the length of stay for each patient.

Second, physicians will become more involved in the budgeting process of their institutions as

hospitals attempt to allocate shrinking resources. New Jersey has seen an increase in the number of salaried physicians and full-time clinical department heads who can devote more time to administrative issues, such as budgeting, than can voluntary staff. However, the growing number of salaried physicians is a national trend which is attributable to many factors. Although the DRG-based system probably is not the primary reason for the increase in salaried physicians in New Jersey, its implementation on a national scale may well stimulate an already existing trend.

Third, new patterns of medical delivery may result from the DRG system. Physicians probably will treat in their offices or in ambulatory surgical centers more patients who previously would have been hospitalized. Nursing homes will be subjected to increasing pressures as patients are discharged to reduce lengths-of-stay. Other forms of delivery, such as day care centers, may emerge to treat patients who are not sick enough for hospitalization, but not well enough to cope with their medical problems without some form of support.

Fourth, the reimbursement system will probably weed out "inefficient" hospitals and contribute to the growing number of hospital takeovers by large proprietary corporations. After three years under the DRG system, several New Jersey hospitals have encountered serious financial problems, and bankruptcy appears imminent in some cases.

Last, but not least, the legislation contains a "sleeper" provision. The law directs the Secretary to study and collect data on the feasibility of developing a DRG-based system for physician charges. The Secretary must make his/her recommendations to Congress by December, 1984. The possibility of a DRG-based system as the basis of physician reimbursement raises the spectre of a national fee schedule. Separate authorizing legislation would be necessary, and the introduction of such a proposal would probably trigger a legislative battle comparable to the hue and cry over Medicare in the early 1960s. Although the possibility seemed remote several years ago, we may well see the enactment of a DRG-based system or a comparable mechanism for physician fees in the not so distant future.

Wendy J. Smith

Legislative Update: 1983 General Assembly

During the past four months, nearly 1,900 bills were introduced in the Rhode Island General Assembly. Many of them address medical issues and, if implemented, would profoundly affect Rhode Island physicians and their patients.

The Public Laws Committee, chaired by Doctor Peter D. T. Clarrisse, has studied almost 200 bills during the current legislative session. Some were inconsequential while others required more attention. The President and officers of the Society reviewed the Committee's recommendations and determined who would be best qualified to present testimony on each bill. This process frequently occurred under considerable time pressure because legislative hearings often were convened on 24 hours notice.

The chart below summarizes many of the health-related bills and the position of the Society. Several bills, however, should be highlighted because of their significance:

Worker's compensation: S 512 would require the Worker's Compensation Commission to determine the "reasonableness" of medical bills for worker's compensation cases. It also would provide for a 10 per cent penalty for medical bills not paid within 30 days.

The bill was introduced at the Society's request to reverse the impact of 1982 legislation which links physician reimbursement for worker's compensation cases to the Medicare fee schedule. During a process which lasted several months, RIMS officers met with representatives of the specialty groups especially affected by the change — neurosurgeons, orthopedic surgeons, plastic surgeons, and emergency room physicians — as the first step in seeking remedial legislation. Because of the obvious interest of labor in the issue, the Society also sought endorsement of the proposal from the Rhode Island Chapter of the AFL-CIO.

Limited licensure: Limited licenses currently are granted only to physicians in training who do not meet the qualifications for unrestricted licensure. H 5705, however, would permit licenses to be

granted to full-time medical school faculty members by virtue of their academic appointments. The bill also provides for an unlimited number of annual renewals.

Testifying before the House Health, Education, and Welfare Committee, Society President Doctor Melvin D. Hoffman objected to the proposal since the annual renewal mechanism would permit faculty members, in effect, to bypass the strict educational and citizenship requirements for full licensure. He said that some mechanism should be established to grant limited licenses to visiting faculty on a temporary basis, but noted that other states have imposed time restrictions. Massachusetts and Connecticut, for example, have three-year time limits on limited licenses.

On a related issue, the Society and the Board of Medical Review sought the introduction of S 586 which would extend the Board's authority to regulate physicians with limited licenses. The Society has long advocated that limited-license physicians should be subject to the same rules and regulations as physicians with unrestricted licenses.

Confidentiality: The Society vigorously objected to S 590 which would substantially weaken existing physician-patient confidentiality statutes by requiring the release of information in legal and administrative proceedings. In testimony before the Senate Judiciary Committee, Doctor Hoffman said that patients would be reluctant to divulge confidential information essential for treatment if they were not assured of protection of privacy.

Hospital costs: The Society testified on H 5470, which would establish a maximum total limitation (known as a "con-cap") on all hospital capital projects currently reviewed by the Health Services Council. Under the proposal, called the "Health Care Affordability Act of 1983," projects could be approved only if they did not exceed a total limitation established by the Health Services Council, Hospital Association of Rhode Island, and Blue Cross/Blue Shield.

In his statement to the House Health, Educa-

tion, and Welfare Committee, Doctor Hoffman said that the Society supported the concept of a maximum total limit to contain costs. He noted, however, that a lid on capital expenditures may have long-term implications for the quality of patient care and expressed concern about the lack of an arbitration method in the proposal.

The Society also testified on the following bills:

Legal drinking age: Doctor John O'Shea testified before the House Special Legislation Committee in support of H 5130 which would increase the legal drinking age from 20 to 21 years. The House of Delegates had endorsed this action at its March meeting.

Physician participation in insurance programs: Doctor Fred Perry objected to a bill which would require anesthesiologists to inform patients if

they do not participate in insurance programs before the service is provided. His testimony was presented to the House Health, Education, and Welfare Committee.

Medical-legal issues: The Society opposed H 5345 which would allow actions for "mental anguish" caused by a wrongful act. In testimony before the House Judiciary Committee, Doctor Hugo Taussig said that "mental anguish" is not a clinically demonstrable condition.

The General Assembly will adjourn on May 4. An evaluation of the impact of enacted legislation on physicians will be included in a future issue of the *Journal*. Physicians interested in a particular bill, however, should call the Society's offices at 331-3207 for additional information.

BILL	SUMMARY	POSITION
Public Health & Safety		
H 5198	Would require mandatory suspension of drivers' licenses for one year for persons convicted of driving while intoxicated	SUPPORT
S 5199	Would require hospitals to post "no smoking" signs in corridors	SUPPORT
S 5319	Would require drivers in traffic accidents to submit to tests to determine the presence of alcohol	SUPPORT
H 5324	Would mandate child restraint systems in cars for children between the ages of 4 and 17; two similar bills are pending	SUPPORT
S 253	Would require motorcyclists to wear helmets	SUPPORT
H 5709	Would prohibit smoking in certain public places	SUPPORT
H 5021	Would appropriate \$15,000 for teaching cardiopulmonary resuscitation in the public schools	SUPPORT
H 5579	Would enact criminal penalties for adulteration of products consumed by the public	**
H 5609	Would establish procedure for informing the public about possible exposure to toxic substances	**
S 500	Would establish a uniform telephone number (911) for emergency services	**
S 755	Would require hospitals and state agencies to submit annual reports on mortality rates for high-volume surgery	**
H 6061	Would apply to hospices rules and regulations covering other health care facilities	**
H 6002	Would provide for the emergency treatment of drug-intoxicated persons	**
Confidentiality of Medical Records		
S 086	Would expand the definition of health care providers to include rape crisis centers under existing confidentiality laws	SUPPORT

** Under study as of March 31, 1983.

BILL	SUMMARY	POSITION
Confidentiality of Medical Records		
S 5134	Would extend absolute confidentiality to all communications between rape victims and center counselors	OPPOSE
H 5981	Would create a commission to study "privileged communications"	**
Allied Health Personnel		
H 5051	Would permit "school psychologists" to practice independently outside the school setting	OPPOSE
H 5223	Would establish training requirements and a licensure mechanism for athletic trainers	SUPPORT
H 5799	Would establish a Board of Social Work Examiners to license and regulate the practice of social work	**
S 725	Would establish a Board of Examiners in Counseling to license and regulate the practice of "counseling"; two similar bills are pending	**
Insurance & Reimbursement		
S 736	Would create a commission to study Medicare and Medigap insurance	**
H 6097	Would prohibit health care providers from soliciting signatures on blank forms from subscribers to health insurance programs	**
H 6094	Would require all health care providers to state if they participate in health insurance programs as a condition of licensure	**
H 5951	Would protect enrollees in HMOs if the HMO declares bankruptcy	**
H 5934	Would require HMO licensees to obtain a statement of business soundness from the Department of Business Regulation	**
H 5896	Would require insurance carriers to pay for second opinions for elective surgery	**
S 0525	Would require hospitals to prepare itemized billing statements for all services	**
S 561	Would prohibit price-fixing among insurance companies and regulate rate setting policies	**
H 5491	Would allow the Department of Social and Rehabilitative Services to establish a maximum rate of payment charged to all nursing home patients	**
H 5552	Would require health insurance carriers to continue coverage for non-subscriber spouses after a divorce decree	**
H 5641	Would require the inclusion of home health benefits under the state Medicaid program	**
H 5561	Would require all health insurers to offer coverage for home health services	**
Medical-Legal Issues		
H 5519	Would abolish the defense of diminished capacity in criminal trials and require a verdict of "not guilty by reason of insanity"	**
S 041	Would abolish the present insanity defense and replace it with a verdict of "guilty, but mentally ill"	**
	<i>Note: The Rhode Island District Branch of the American Psychiatric Association opposes this legislation and has expressed concerns that it would equate mental illness and criminal activities.</i>	**

BILL	SUMMARY	POSITION
Medical-Legal Issues		
H 5451	Would permit individuals to sign "living wills"	**
H 6100	Would prohibit restriction of nutritional or medical care to children; allows medical and hospital personnel to initiate treatment in life-threatening situations without fear of liability; two similar bills are pending	**
H 5697	Would require physicians to provide patients with "clear and legible" prescription instructions upon request	**
S 731	Would require retirement for physicians over age 70 employed by the state	**
Health Planning & Policy		
H 5050	Would establish RIPSRO as the single review agency for all health care services in the state and establish a state "tax" on hospital beds to finance its activities <i>Note: The Council met with RIPSRO officers and staff at its April meeting about the matter.</i>	OPPOSE
H 5280	Would require the Director of Business Regulation to review all hospital operating budgets	OPPOSE
S 10	Would place the Office of the Medical Examiner under the Department of Health <i>Note: The Society has long supported an independent Office of the Medical Examiner.</i>	OPPOSE
H 5714	Would require the Department of Health to establish minimum standards for home health agencies	**
S 571	Would prohibit hospitals or emergency centers from refusing treatment because of a patient's inability to pay	**
H 5527	Would require applicants filing for a certificate-of-need determination to include a statement of legal expenses connected with the filing	**
H 6022	Would establish the Rhode Island Cancer Research Foundation	**
H 6074	Would create a commission to study the health care regulatory process	**

Chapin Orator Selected

The Scientific Work and Annual Meeting Committee, chaired by Doctor Henry T. Randall, recently selected Doctor Alvan R. Feinstein to deliver the 1983 Chapin Oration. Doctor Feinstein is Professor of Medicine and Epidemiology at Yale University Medical School.

Doctor Feinstein will present the 41st Annual Charles V. Chapin Oration on Tuesday, June 7, 1983, at the Sheraton-Islander Hotel, Newport, Rhode Island. The presentation is being made in

conjunction with the annual convention of the New Hampshire Medical Society. Members of the Rhode Island Medical Society also will be invited to attend a gala reception and dinner at Rosecliff Mansion that evening.

Mayor Vincent A. Cianci of Providence will present the city's Chapin Medallion to Doctor Feinstein.

Additional information and registration forms will be mailed to all Society members in early May.

Iatrogenic Extracorporeal Hemolysis during Cardiac Surgery in a Child: A Case Report

Authors Postulate Shear-Stress in Transfusion Filter As Cause of Hemolysis

Carl H. Critz, MD
W. Martin DeLuca, PA
Arun K. Singh, MD

Intra-operative hemolysis is a problem requiring immediate diagnostic evaluation. The clinical manifestations cover the spectrum from incidental to life-threatening, and therapy may range from diuresis to circulatory support, dependent on etiology and severity. We wish to report a four-year-old patient who experienced intra-operative onset of gross hemoglobinuria during cardiopulmonary bypass for correction of a congenital atrial septal defect and pulmonary stenosis. Shear-induced hemolysis is proposed as an explanation for hemolysis in this patient.

Case Report

A four-year-old white female was admitted to Rhode Island Hospital for surgical correction of both an atrial septal defect (secundum type) and pulmonary valvular stenosis. The patient was the product of a 32-week gestation, with a birth weight of 1680 gm. A heart murmur was heard on the second day of life. Non-invasive cardiac evaluation was done, and the patient was seen at regular intervals through infancy. Increased fati-

gability and decreased exercise tolerance prompted cardiac catheterization at one year of age. Right ventricular systolic pressure was 60-65 mm Hg with left sided pressure of 80-85 mm Hg. There was a left to right shunt at the atrial level (pulmonary to systemic blood flow 2:1). Routine preoperative laboratory tests were all within normal limits. The patient was typed (O⁺) and cross-matched for packed red blood cells.

Under nitrous oxide, halothane, and oxygen anesthesia, a mediastinotomy was performed. Cardiopulmonary bypass was instituted using a Travenol® Membrane Oxygenator, a Stöckert® Positive Displacement Roller Pump, and a Travenol® Miniprime Heat Exchanger. The perfusate was lowered to 32°C during bypass and rewarmed to 37°C prior to termination of bypass. The bypass apparatus was primed with 1200 ml of Plasmalyte® 148, 12 ml of 50 per cent dextrose, 50 ml 8½ per cent sodium bicarbonate, 500 mg calcium chloride, 5000 units of heparin (beef lung), and one unit of packed red blood cells reconstituted with 200 ml of the above Plasmalyte® 148. The diluted, packed red blood cells were introduced through an unprimed, 40 µ surface type blood transfusion filter into the cardiectomy reservoir. Pressure was applied to the reconstituted packed red blood cell bag by hand. It was noted by the perfusionist that unusually high pressure was required to pass the reconstituted red cells into the cardiectomy reservoir. Primary suture closure of the atrial septal defect and pulmonary valve commissurotomy were performed. Total pump time was 25 minutes. Nineteen minutes after bypass was initiated, hemoglobinuria was noted and transfusion reaction work-

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up was begun. The plasma-free hemoglobin was 578 mg/dl (0.0895 mM/L) using a Drabkin reagent¹⁰ at the conclusion of the cardiopulmonary bypass. The arterial blood pH ranged from 7.29 to 7.48 during the procedure.

The patient tolerated the surgery well, and the chest was closed in a routine manner. Treatment of hemoglobinuria included alkalinization of the

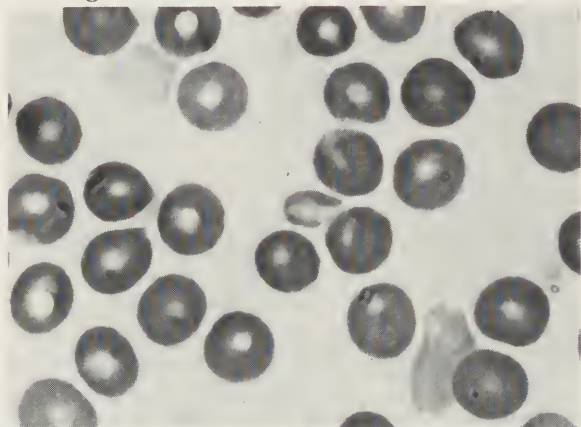


Figure 1. Peripheral smear, immediate post-operative period, showing ghost cells and red cell fragment x 1000.

urine with sodium bicarbonate, osmotic diuresis with mannitol and maintenance of urine output with crystalloids. Serial plasma-free hemoglobin fell from 578 mg/dl (0.0896 mM/L) intraoperatively to 168 mg/dl (0.026 mM/L) at five hours and 62 mg/dl (0.0096 mM/L) at 24-hours post-bypass.

Discussion

The cause of the hemolysis in this patient was not immediately clear. The first consideration was to rule out a hemolytic transfusion reaction. The pre- and post-transfusion specimens were rechecked for Rh and ABO types and found correct; direct and indirect Coombs' tests were negative. ABO and Rh typing was repeated on all five donor units, and the cross-matching was repeated on pre- and post-transfusion specimens using low ionic strength technique. The tests confirmed correct typing and compatibility of units transfused. A test for cold agglutinins was <1:2. The indirect Coombs' was incubated 20 minutes at 37°C, and the anti-human globulin was supplied by Ortho® containing both anti-IgG and anti-C₃, C₄. Gross hemolysis was evident in the post-bypass serum. On the strength of these data, another source of hemolysis was sought.

The next consideration was extracorporeal hemolysis; mechanical¹⁵, thermal,^{1, 9, 11} pressure,^{6, 7, 16} shear,^{3, 4, 14, 18} air interface,¹⁹ surface interaction,^{2, 13} blood age, and blood handling⁸

factors were examined. No new equipment or nonstandard operative procedures had been used. The proper occlusions were set on the roller pumps prior to use. The unit of packed cells was not exposed to any thermal or mechanical trauma prior to use and was 21-days old, well within the acceptable shelf life for citrate phosphate dextrose anticoagulant. The thermal controls and alarms on the heat exchanger were tested and functioned properly. The heat exchanger and membrane oxygenator were tested and found to be intact. Cardiectomy suction return was minimal during the short procedure. The orifice size of the aortic cannula was appropriate for the calculated flow of the patient.

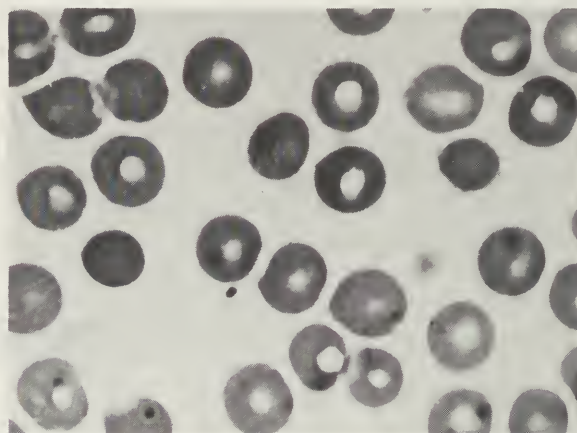


Figure 2. Spherocyte, spiculated spherocyte and ghost form. Wright stain x 1000.

The only unusual feature was reported by the perfusionist in retrospect. Abnormally high hand pressure was required to pass the reconstituted packed red blood cells through the unprimed 40 micron filter into the cardiectomy reservoir. Unfortunately, the blood bag, filter, and lines were discarded immediately postoperatively and could not be retrieved for examination.

Hemolysis has been noted in conjunction with elevated driving pressures through blood filters with and without microaggregate occlusion of the filter pores.^{7, 12} Microaggregates and (rarely) large clots are well known to occur in bank blood. The increased pressure required to drive the blood into the cardiectomy reservoir suggests occlusion of a portion of the filtration surface by blood clot, resulting in increased resistance. Increased pressure would produce an increased flow rate through the remaining open pores exposing the red cells to shear stress. The literature gives a wide range of shear force hemolysis threshold data from different *in vitro* test systems.¹⁵ Unfortunately, we have no numerical data in this case with which either to calculate or

duplicate the shear force to which the red cells were exposed. The total hemoglobin released into the combined patient blood volume (960 ml) and pump prime volume (1470 ml) were calculated from the peak plasma hemoglobin value of 578 mg/dl as 14 gm. This corresponds to approximately one-quarter of the hemoglobin contained in a unit of packed red blood cells.¹¹ Sutura, et al¹⁴ showed permanent morphologic changes in red cells exposed to a shear force greater than the hemolytic threshold (3500 dyn/cm²) in their test system, consisting of crenation and fragmentation. No significant changes were seen in red cells exposed to subthreshold stress. The peripheral blood smears from our patient after bypass showed small numbers of ghost forms, spiculated spherocytes, and red cell fragments which were not seen as a laboratory artifact. The changes disappeared in serial smears over the 12 hours post-bypass with the exception of occasional large red cell fragments with central pallor. Pre- and post-bypass peripheral smears were examined on several bypass patients as controls for pump related red cell trauma, and similar changes were not found.

The packed red cells used in this case were 21-days post-phlebotomy, stored in citrate phosphate dextrose at 4° C. Data from various test systems and theoretical considerations are at odds on the issues of red cell age, storage time, and shear hemolysis susceptibility. Red cells in a shear force field deform into prolate ellipsoids which stay aligned in the field while the membrane revolves or "tank treads" around the cytoplasm. As the force increases, the ellipsoids elongate, forming "sharper" points where membrane bending stress is highest. The greater the surface to volume ratio, the longer the ellipsoid will be and the "sharper" the bending at the ends.¹⁸ Young red cells have a higher surface to volume ratio by 4 per cent and so, geometrically, should be more fragile to shear stress.¹⁸ Red cells under storage conditions tend to become more spherocytic with age; the membrane, however, also becomes substantially more rigid.⁸ The effect of red cell storage duration on shear susceptibility is

confusing and complex. Experimental systems testing red cell shear fragility showed some increase in hemolysis with advancing red cell storage time.^{5, 11, 17} *In vivo* and under "normal" bypass conditions, shear forces are kept well below hemolytic threshold levels. These minor age-related shear sensitivity differences appear to have no practical significance.¹⁵

The abrupt onset of hemoglobinuria shortly after initiating cardiopulmonary bypass was traced by a process of elimination to the priming of the bypass cardiectomy reservoir. Reconstituted packed red cells were forced by unusually high hand-generated pressure through a transfusion filter with 40 µ pore size exhibiting abnormally high resistance, possibly due to partial obstruction by clot or clots. It is postulated that the forces generated in the partially occluded filter produced hemolysis with release of approximately 25 per cent of the hemoglobin contained in the unit. Spiculated spherocytes, red cell fragments, and ghost red cells were seen transiently post-bypass, confirming red cell injury consistent with shear stress. The patient experienced no clinical problems as a result of the hemolysis.

Summary

A four-year-old female underwent correction of an atrial septal defect and pulmonary stenosis on cardiopulmonary bypass. The cardiectomy reservoir had been primed with a unit of packed red blood cells (reconstituted with 200 ml of Plasmalyte® 148) introduced under unusually high, hand-generated pressure through an unprimed surface type 40 micron transfusion filter. Gross hematuria was noted after 19 minutes of extracorporeal circulation. The peak plasma-free hemoglobin was 578 mg/dl (0.0896 mM/L) at the conclusion of cardiopulmonary bypass, with return to near normal in 24 hours. The patient experienced no clinical, hemodynamic or renal complications from the episode. Immune, mechanical, surface and thermal causes were ruled out leaving shear-stress through a partially occluded transfusion filter the most tenable explanation.

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ANNUAL MEETING SCHEDULED FOR MAY 25

It is not too late to make your reservations for the 172nd Annual Meeting of the Rhode Island Medical Society to be held on Wednesday, May 25, 1983 at the Providence Marriott Hotel. The day's events will start with the annual business meeting at 4:30 pm, followed by an address and press conference with Doctor Frank J. Jirka, Jr., President-Elect of the American Medical Association.

Doctor Jirka, a urologist practicing in Barrington and Berwyn, Illinois, will be installed as AMA President in June. Long active in organized medicine, he was first elected to the AMA Board of Trustees in 1974. He served as AMA Secretary in 1976-77 and as Vice Chairman from 1977 to 1979. Doctor Jirka has served the Illinois State Medical Society as its President, Chairman of the Board of Trustees, and as a delegate to the AMA House of Delegates. He currently is a councilor of the Chicago Medical Society.

Doctor Jirka received his MD degree from the University of Illinois College of Medicine in 1950 and served his internship and residency at Cook County Hospital in Chicago. Motivated by severe

injuries as a Navy frogman during World War II, which resulted in amputation of both his legs below the knee, Doctor Jirka has devoted a considerable amount of professional and personal effort towards rehabilitation programs. He has served on the President's Commission on Employment of the Handicapped, and has been a board member of both the Illinois Association of Crippled Children and the Illinois Rehabilitation Association.

Doctor Jirka will have completed a study tour of the British health system immediately before his visit to Providence and is expected to make some thought-provoking comparisons between the British and US systems of health care delivery.

A reception will follow the press conference at 6:00 pm. Dinner will feature the Presidential Address of outgoing President Doctor Melvin D. Hoffman and the installation of officers for 1983-84. Entertainment will be provided by the Razzmatazz.

Tickets are available at \$30 per person. Reservations may be made by calling 331-3207.

Notes from Underground

Frank Newman, PhD

I have been asked to comment on the experience of hospitalization. I do so with reservations. Not the least of these is that I am thankful for the outcome. I have developed a new appreciation for the human body and its complexity; for the freedom inherent in the life I lead; for the constant advances in the state of the art that make so many medical procedures relatively routine today that were dangerous yesterday; and for the skill and dedication of the surgeon and all those involved. Perhaps it would have been best to leave it at this.

In the hope that it will be useful, let me comment on the road to recovery. I refer not to the chronology of events, but rather the more striking aspects of being a patient that I found fascinating, the dilemmas, if you will, encountered along the way. Recovery demands much of us, and not only physically. It requires a sense of self and a tolerance for intrusions on that sense. Perhaps that is why we are referred to as "patients."

Choosing A Physician

Let me start at the beginning, not at the beginning of ill health, but at the beginning of recovery from ill health. One of the more puzzling aspects

of medical care, at least to the patient, is that as medicine has become more specialized (and more effective) it has also become less easily accessible. To find the right or appropriate physician is no longer easy. In fact, it is truly complex. In the ordinary case, there is no longer a family relationship in which the physician knows us well, and equally important where we know the physician well. Even if we live in suburban areas, we no longer live in a small town in the social sense. Perhaps that romantic ideal of the family-physician relationship never was true for most people, but certainly it is not true for most people now.

Rather, for most of us, medical care has become primarily a crisis relationship. Our concern, when the crisis occurs, is to find the right specialist, who is almost always an outsider. There are both good and bad things about being an outsider. An outsider often has a high level of credence, which is why we use consultants. But it makes the difficulty of selecting the right specialist extraordinarily difficult. Yet that selection is crucial.

It is clear to even the least sophisticated consumer of medical services that there is a considerable difference in skill among specialists. Everyone knows there are good and less good doctors if for no other reasons than that TV programs such as "M.A.S.H." and "Quincy" remind us of this every week. Even when skills are similar or above reproach, there is still the difference in whether the approach and personality of the physician match those of the patient.

A recent paper in the *New England Journal of Medicine* points out that the risk inherent in a serious operation is reduced significantly at some hospitals with some teams as opposed to other hospitals with other teams. The risk declines with those teams that perform the operation on a more frequent basis.

On February 2, 1982, Dr. Frank Newman presented the annual Simeone Oration on the subject, *The Anatomy of a Recovery*. The Simeone Oration is an annual event of The Miriam Hospital, Providence, Rhode Island, and is held to honor Fiorindo Simeone, MD, former Surgeon-in-Chief of The Miriam Hospital and Professor of Medical Science Emeritus, Brown University. This paper represents the essence of his presentation.

Frank Newman, PhD, President, University of Rhode Island, did his undergraduate work at Brown University. He completed his graduate studies at Columbia, Oxford (Eng.) and Stanford Universities.

So the right hospital and the right physician are key. But most people have no way to address the question of what choices are available, let alone which among these choices would be most appropriate. I have been fortunate in having acquaintances at a medical school so that I have the means of asking that question.

Those people without a family physician simply do not know where to begin. If they are already connected to the medical system because they have a regular family physician, the problem is even more difficult. Their physician is very likely to make the decision for them. Then if they are skeptical or wish to question the choice for any one of a number of reasons, it creates a social circumstance so awkward that few undertake to attempt to deviate from their family physician's initial recommendation.

Yet we are in an age in which the consumer increasingly wishes to be a partner in this type of decision; in which the consumer is no longer satisfied by the assurance of expertise in any field, from nuclear power to foreign affairs. I often thought about the difficulty that this created for my fellow patients, and that there is no simple solution in sight.

The second aspect in reflecting on recovery let me describe as the problem of "certainty, clarity, and ambiguity." For perfectly understandable and obvious reasons I was, and I suppose most patients are, determined to understand fully the nature of my medical problem, what were the solutions and what were the risks. Yet answering these questions is more complicated than it appears and often leads to serious difficulties.

It is not simply that the increasingly scientific nature of medicine leads physicians to respond with a sense of certainty, it is also that the patient is desperately seeking certainty in an uncertain world. The physician is often pressed to provide *the* answer when there are likely to be many sources of information or authority figures and many informed answers.

Our solution in the academic world is both simple and ingenious. We encourage the students to take four or five courses at a time. The student learns that there are multiple authority figures, but only one to a class. Several years ago when I was at Stanford, I began an experiment that I have since continued. I team-taught a course with either one or two others. We made a practice of consciously differing with each other in class. After three or four weeks, the frustration and anger of the students would become visible, at which time we would question them on what they

thought was the problem. When they pointed out that we were differing in class, we would ask them if they didn't themselves differ in their view; to which they would inevitably respond, "Yes, but you are the professor!" Then came the plea, "Tell us what is the right answer." In time they would learn to integrate our responses (and their own) so that they began to think in more profound ways, which, of course, is the purpose of such a course.

However, the difficulty of having two, or three or five doctors for one operation, who consciously present different views, seems self-evident. Yet, if we think about it, there are already multiple and often conflicting sources of information available to the patient.

It is easy to forget that there are other authority figures competing for the patient's confidence. I mentioned that certain TV programs provide some of this competition. I would not underestimate the influence and credibility of the media. Repeated polls show that televised news and public affairs programming is the most credible source of information to Americans, more so than either physicians or professors.

One result of undergoing an operation is that I have been forced to undertake exercises for therapy early in the morning. Because they are so boring, I have taken to watching early morning television at the same time. I have discovered that the most common television programs at that hour, save only the evangelical religious programs, are the talk shows about medical care.

But it is not only television that competes. I was interested in a recent series in the *New York Times* on the nature of problems that most people have with their spinal columns. These are powerful and credible competitors. Remember, it is you versus John Chancellor or Jane Brody.

Even beyond the media there are others, neighbors and friends. Someone recently mentioned to me that just before they were about to undergo an operation, a good friend called, pleading that they should not proceed, pointing out that a close relative had done so and had been crippled for life. Surely this is a voice not likely to be totally ignored. My experiences were nowhere near as dramatic, though I did have a number of friends call and caution me to be sure that I was right and not to enter into the operation lightly.

Because we have come to expect scientific infallibility, we are confused and resentful in the face of differing answers. Years ago when I first injured my spine, I had run into this phenomenon repeatedly; forceful, plausible answers to my

questions from different physicians with the single flaw that they were diametrically opposed to one another. Fortunately, this time, when the situation became serious, I was able to solve the problem with the help of the surgeon and several other physician friends who spent a good deal of time explaining to me the uncertainties and ambiguities with clarity and patience, allowing me as a layman to understand and appreciate what was likely to happen.

Coping with Fear

Let me turn to a third aspect, one that I found was widespread among my fellow patients, but one that I did not have the opportunity to share, namely fear. I do not say this with pride, nor claim that it represents any act of courage. Mark Twain has pointed out that courage is resistance to fear, mastery of fear, not the absence of fear.

For whatever reason, I am not a person who senses fear when on an airliner in bad weather or even in a faculty meeting debating the budget. Perhaps the assumption of survival is so deeply ingrained as to make a rational response unlikely. It may be, as my wife has suggested on more than one occasion, simply a failure to understand what is happening around me.

But I discovered among my colleagues as patients that fear is a visceral thing. Risk is statistical, but failure and the fear of failure is personal and individual. Risk is a nice neat rational concept that measures uncertainty, but fear is irrational and certain.

Before this experience, to the degree that I had even considered the subject, I underestimated the value of the collegial relationship among patients, the value of roommates, the value of sharing a sense of hardship. It would be a mistake to ignore the value and the need for such collegiality among patients. Patients need each other. Like freshmen in the dormitories, they need someone to talk to who is just as ignorant as they are, someone just as embarrassed and confused, someone not part of the system to tell them they are going to be all right.

Role of Self in Healing

Finally, there is another factor that should not be underestimated, but seems to me often is, the role of self in healing. Medicine is not and cannot be dispassionate. It must be involved. The attitude the patient brings to the process is critical.

However, as patients, we receive confusing signals. Does "the system" want us to be passive, compliant, no trouble, or does it want us to be

active self-healers? The literature says the patients' positive, determined confident sense of self-healing is central. I suspect that all of us believe its importance is such that it can be the ultimate determinant of life or death.

Yet, often it seems as if the not so subtle signals are telling us that we should be nice cooperative vegetables. In part, this feeling is a result of the uncomfortable experience of being forced to be dependent. While a few people revel in this, most of us want to be on our own, in control of our destiny and free to make decisions for ourselves. Enforced dependency is distasteful.

But, in other ways as well, the dependency is reinforced. In some respects it is similar to entering the service, when our hair was shaved and we were issued standardized clothes. (I had a surge of relief and appreciation when I discovered that my hospital had made provisions for my clothes to be hung in a small closet in my room. It is no small blow to one's ego to be separated from one's clothes, something police states have known for a long time.) Another element is the mode in which we are talked to, or often not talked to, but talked about in our presence. After watching the experience of my successive roommates, I came to a warm appreciation that my surgeon always talked directly to me and assumed that I should be a party to the discussions.

A successful self-healer needs to learn to cope with this inadvertent assault on the psyche. I chose, without quite realizing that I was doing so, the path of interviewing everyone who came near. What was their particular job? How did they come to that career? What did they like about it? What education did it require and where did they get it? Everyone (well, almost everyone) is interesting, if one probes enough, and most people like to talk about themselves; so I learned a great deal. But I also kept my personhood.

Some preserve this through hostility. I know of a successful professional man who, when the physician and residents came by on rounds, while they were in the act of discussing him, took photographs of them. He was in effect saying, "You're looking at me, but I'm looking at you."

My only descent into the use of hostility concerned the side-rails on the bed. In the first days, I found that lowering these so that I could reach a book or magazine took me literally fifteen minutes of exhausting planning and work. One particular nurse would bustle in, talking at, but not to me, and before I could prevent it, raise the rails. Later, after I had laboriously lowered them, she would again catch me off guard and raise them

and lecture me before I could rally. I finally achieved what I guess is now called meaningful communication by shouting at that startled and well-meaning woman, "Stop. I have three large sons. If you raise that rail, I will get them to sneak in here and beat you to a pulp." After a moment of tense confusion, we worked out a mutually acceptable relationship based on respect for each other's humanity.

Body and Mind

With the advances in knowledge and the sophistication of the technology, I suppose there is an inevitable tendency for modern medicine to separate the mind from the body and to focus on healing the body. Most cases are, as mine was,

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HAVE YOU HEARD? . . .

Thought Technology, a Montreal bio-medical electronics company, has developed Biofeedback 4®, a device capable of measuring four psychophysiological parameters of stress: galvanic skin response, temperature, heart rate, and tension, with improved results. The company notes that the effectiveness of biofeedback in the treatment of stress-related symptoms is well-documented. Feedback enables patients to develop relaxation skills so that they may control stress without dependence on drugs. Changes in stress levels are monitored and fed back as either an audible tone, which rises and falls as stress increases or decreases, or as a visual meter read-out.

• • •

Hoffmann-LaRoche, Inc. recently announced that it will begin to market Bumex® (bumetanide/Roche), a new loop diuretic. Bumex is indicated for the treatment of edema associated with congestive heart failure, and hepatic and renal disease, including the nephrotic syndrome. The first new loop diuretic to be introduced in the United States in 15 years, Bumex has been shown to be rapid-acting, effective, and safe in treating edema in short-, intermediate-, and long-term clinical trials. It will be available in both oral and injectable forms.

crisis care, and it is the body on which attention is focused. The mind is only an extension of the body.

For the patient, however, the reverse is the case. The mind is central. Even under the most trying circumstances, it is the body that is the extension, which is why it sometimes seems such an odd experience.

As Shakespeare said in *King Lear*:

Infirmity doth still neglect all office,
Whereto our health is bound
We are not ourselves,
When nature, being oppress'd,
Commands the mind,
To suffer with the body.

According to a report published recently in the *American Review of Respiratory Disease*, smokers of low-tar cigarettes may be inhaling twice as much of the noxious substance as they think they are. In the government's estimates of tar volume inhaled by smokers of different brands of cigarettes, an inhalation of 35ml per draw is assumed — the so-called "puff volume." This figure is programmed into a smoking machine and is used in determining the formula for a brand's tar level. However, studies by Marvin A. Sackner, MD, Mt. Sinai Medical Center of Greater Miami, revealed that the real "puff volumes" inhaled by smokers are much greater — between 52-90 ml. This would mean an inhalation of between 50 and 250 per cent more tar than the government's figures indicate.

• • •

The 3M Company has introduced the "first rare earth x-ray film" system designed specifically for chest examinations. The company claims that a 40 per cent improvement in the resolution of chest radiographs is available because of the unique property of the radiographic film, the system's central element. Trimax® GT anti-crossover chest film can improve the modulation

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The Use of a Feeding Gastrostomy as a Means of Preventing Staple Line Disruption in Gastric Operations for Morbid Obesity

A. J. Migliaccio, MD, FACS

A. V. Migliaccio, MD, FACS

With the virtual abandonment of jejunoileal bypass for weight reduction because of its unfortunate complications, gastric bypass surgery has evolved as the current method of choice for management of this common problem. A multitude of methods are presently available, indicating that no one method is the unequivocal answer to the problem. The basic objective of the procedure is to reduce the gastric capacity and thus minimize the caloric intake. This is accomplished by closing off the upper end of the stomach and either joining this small residual pouch to the small intestine or leaving some sort of an opening between the small upper and larger lower pouch to allow transit of the reduced volume of ingested food.

Based on our experience, we believe that the "gastric exclusion" procedure in which a small opening is left between the upper and lower pouches is the best procedure. We have observed a number of patients who by the very nature of their basic problem are incapable of "appreciating" impulses sent from a dilated *residual* pouch telling them to stop eating. These patients tend to disregard these signals, ingest too much food, and promptly vomit. If this occurs in the *early* postoperative period, the probability of the occlusive staple line across the gastric wall disrupting is

considerable. Continuity is then reestablished between the small and large pouches with rapid transit of food, immediately defeating the purpose of the operative procedure. It was after this procedure had been performed twice in the same patient out-of-state that we were presented with the first case in which we instituted a *feeding* gastrostomy. After the gastric staple line had been disrupted on two previous occasions because of pernicious vomiting in the immediate postoperative period, we restapled the gastric wall with two rows of staples in the usual fashion, and then performed a routine gastrostomy. Following the procedure, we omitted all oral intake except sips for comfort. The patient was taught to feed herself by the tube. This satisfied hunger craving. Since then, we have carried out about twelve such feedings, several following the *initial* gastric exclusion procedure.

We have made two observations: First, during the initial postoperative period, any gastric ileus that occurs can be compensated for by the gastric tube being left to drain which (a) reduces the possibility of gastric distention, and (b) eliminates the need for a nasogastric tube. Hence, the potential for respiratory complications is reduced (the upper gastric pouch rarely becomes distended as is seen in the lower gastric pouch). Second, 48 hours following the completion of the gastric drainage, the tube is used as a means of feeding the patient, initially with a 5 per cent dextrose and water solution in a slow drip to determine if the gastric outlet is functioning and eventually with clear liquids progressing to blenderized tube feedings and other forms of enteral alimentation. By eliminating volume intake by mouth, the pa-

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tient runs no risk of vomiting or of the staple line rupturing due to tension. The gastrostomy tube is left in for approximately eight weeks. During this time, the patient continually feeds himself or herself by means of the tube. This is a simple procedure, and no patient has had difficulty with it. (One patient, in fact, *gained* 32 pounds over that eight week period.)

In addition to the use of the tube as a means of preventing excessive oral intake, we have found that most patients begin to appreciate the *value of the food* which is introduced via the gastrostomy tube. They start counting calories and begin to appreciate the caloric content of the food they will eventually be taking by mouth. They have now added one more means of losing weight, which at best is difficult for most morbidly obese patients. One patient refused to have her tube removed and presently has lost over 100 pounds, carrying the use of the tube too far. But it does prove to this patient that calories do not have to be taken by mouth, but can be regulated through the use of a gastrostomy tube.

Concerning the use of staples in this procedure, we have used the TA 90 with the 4.8 mm

cassette staples. The staple line extends from the lesser curvature to approximately 1 cm from the greater curvature leaving approximately a 50-60 ml pouch at the proximal end of the stomach. The opening of the greater curvature is left unstapled by initially removing four of the stainless steel gates that push the staples from the TA 90 cassette at the time of discharge. Removal of the gate is done by cutting it with wire cutting shears. With these gates eliminated, the staples remain in the gun. Hence, with the application of the staple gun across the stomach, the greater curvature is kept free and a large 1 cm tube can be inserted by the anesthetist through this opening with ease, around which the securing nylon suture can be placed. Since the inception of this technique, we have been able to complete the surgery skin to skin in 1 to 1¼ hours.

Realizing that there is never an unequivocal answer to such a difficult problem as morbid obesity, we believe that the above techniques have aided in controlling the patient during the operative procedure and in the postoperative course, thus benefiting the patient in the long run.

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Have you heard?

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transfer function up to 40 per cent over conventional films. Its exclusive anti-crossover property prevents light from reflecting between the emulsions on either side of the film, sharply reducing image diffusion and resulting in a significant improvement in resolution.

Sequoia-Turner has introduced the latest in a series of advanced hematology analyzers. The Cell-Dyn 700® is a low-cost, 7-parameter, bench-top instrument that has a single pushbutton for rapid determinations of white blood count, red blood count, hemoglobin, mean corpuscular volume, mean corpuscular hemoglobin, mean corpuscular hemoglobin concentration, and hematocrit, which are displayed or printed. The dual aperture system performs a 7-parameter assay in less than one minute. The system pro-

vides for an automatic flow self-cleaning after every test.

Philips Ultrasound has introduced the SDU 3000 Series, a new generation of high-resolution imaging systems that offer real-time, servo-sector, linear array, cardiac, Doppler, and static B-scan capabilities. Completely upgradable from its basic sector version, the 3000 can be expanded as scanning requirements increase or change. The system is compact, easy-to-operate, and light enough to be moved easily by one person through a medical facility without loss of calibration. The new system is designed to maintain image quality from real-time to freeze-frame. With a scan depth ranging from 5cm to 26cm, specific areas

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REPORT OF THE HOUSE OF DELEGATES

January 19, 1983

A **regular meeting** of the House of Delegates of the Rhode Island Medical Society was held Wednesday, January 19, 1983 in the auditorium of the Rhode Island Medical Society.

The meeting was called to order at 2:10 p.m. by Charles P. Shoemaker, Jr, MD, in the absence of the Speaker, Frank G. DeLuca, MD.

Members present were:

Officers: Melvin D. Hoffman, MD, President; Leonard S. Staudinger, MD, Vice-President; Charles P. Shoemaker, Jr, MD, President-Elect; Milton W. Hamolsky, MD, Secretary; and Kenneth E. Liffmann, MD, Treasurer.

Delegates:

Bristol County Medical Society: Patricia A. Hyzinski, MD.

Kent County Medical Society: Edward F. Asprinio, MD; John C. Osenkowski, MD; and Thomas A. Vest, MD.

Newport County Medical Society: Thomas Cahill, MD.

Pawtucket Medical Association: David Carter, MD; Peter R. Simon, MD; and Richard Wong, MD.

Providence Medical Association: Frances P. Conklin, MD; Carl F. DeLuca, MD; Richard D. Frary, MD; Ronald M. Gilman, MD; Herbert F. Hager, MD; Harry M. Iannotti, MD; Robert A. Indeglia, MD; Joseph A. Latina, MD; Betty B. Mathieu, MD; Julius C. Migliori, MD; Richard G. Mignacca, MD; Kenneth B. Nanian, MD; Elliot Perlman, MD; Herbert Rakatansky, MD; Michael A. Rocchio, MD; Stanley J. Stutz, MD; Albert F. Tetreault, MD; Richard B. Turner, MD; Johannes Virks, MD; Louis Vito, Jr, MD; Conrad W. Weselhoeft, Jr, MD; and Elihu Wing, Jr, MD.

Washington County Medical Society: Erwin Siegmund, MD; John J. Walsh, MD; and Pauline B. Wood, MD.

Woonsocket District Medical Society: Paul C. Hesler, MD; and Augustine Colella, MD.

Specialty Society Representatives: Henry F. Izman, MD, Rhode Island Society of Internal Medicine; Daniel J. Hanson, M.D., Rhode Island

Radiological Society; Stephen J. D'Amato, MD, American College of Emergency Physicians — Rhode Island Chapter; Robert L. Bahr, MD, Rhode Island Ophthalmological Society; Robert G. McRae, MD, Rhode Island Otolaryngological Society; Frank Schaberg, MD, Providence Surgical Society; Paul J. M. Healey, MD, Rhode Island Chapter, American College of Surgeons.

Members Ex Officio: Seebert J. Goldowsky, MD, *Rhode Island Medical Journal*; John J. Cunningham, MD, Delegate, American Medical Association; Herbert F. Hager, MD, Alternate Delegate, American Medical Association.

District Society Presidents: Alfred A. Arcand, MD, Kent County Medical Society; Herbert Rakatansky, MD, Providence Medical Association; Alban J. LeBlanc, MD, Woonsocket District Medical Society.

Staff present: Norman A. Baxter, PhD, Executive Director, Brian R. Clarke and Wendy J. Smith, Assistant Executive Directors.

Members absent were:

Delegates:

Kent County Medical Society: Klaus F. Haas, MD; Fred T. Perry, MD (excused); and Oswaldo Velis, MD.

Newport County Medical Society: Fouad M. Ayad, MD (excused); Edwin J. Henrie, MD (excused); and Patrick O'Halloran, MD (excused).

Pawtucket Medical Association: Robert E. Curran, MD; Mohammad A. Khan, MD; and Mary-Elaine Rohr, MD.

Providence Medical Association: Michael S. Barrett, MD (excused); C. John Brex, MD; William M. Colaiace, MD (excused); John J. Coughlin, MD; Louis M. Damiani, Jr, MD; Frank G. DeLuca, MD; Joseph R. Gaeta, MD; Arnold H. Herman, MD; Donald G. Kaufman, MD; Mary D. Lekas, MD (excused); Anthony F. Merlino, MD (excused); Peter T. Nigri, MD; Jay M. Orson, MD; Robert W. Riemer, MD; Raymon S. Riley, MD; Rajnikant K. Shah, MD (excused); S. Frederick Slafsky, MD (excused); Joseph R. Tucci, MD (excused); Raymond W. Waggoner,

Jr, MD; and Robert J. Westlake, MD.

Washington County Medical Society: Pasquale J. Celestino, MD.

Woonsocket District Medical Society: Orazio Basile, MD; and John C. Baxter, MD (excused).

Specialty Society Representatives: John J. Coughlin, MD, Rhode Island Section, American College of Obstetricians/Gynecologists; Anthony Merlino, MD, Rhode Island Orthopedic Society; Louis Hochheiser, MD, Rhode Island Chapter, American Academy of Family Physicians; Robert Lev, MD, Rhode Island Society of Pathologists, Inc; Robert Westlake, MD, Rhode Island District Branch, American Psychiatric Association; Augustine McNamee, MD, Rhode Island Society of Anesthesiologists; Arthur B. Kern, MD, Rhode Island Dermatological Society; Guy A. Settupane, MD, Rhode Island Society of Allergy; Walter Cotter, MD, Rhode Island Society of Neurosurgery; Ian B. Tyson, MD, Rhode Island Society of Nuclear Medicine; Robert Baute, MD, Rhode Island Thoracic Society; Jorge Benavides, MD, Rhode Island Thoracic and Cardiovascular Society; Guy Geffroy, MD, Rhode Island Neurological Society.

District Society Presidents: Leonard J. Parker, MD (excused), Bristol; Elie J. Cohen, MD (excused), Newport; Robert S. Burroughs, MD, Pawtucket; Thomas J. Coghlin, MD (excused), Washington; (A. Laurenzo, MD took his place).

Speaker of the House: Frank G. DeLuca, MD.

Vice Speaker of the House: Peter D. T. Clarisse, MD.

Members Ex Officio: Joseph E. Cannon, MD, Director, Rhode Island Department of Health; and William J. MacDonald, MD, Vice-Chairman of the Board, Blue Cross/Blue Shield of Rhode Island.

Immediate Past President: Charles E. Millard, MD.

Approval of Minutes

It was noted that the minutes of the September 22, 1982 meeting of the House of Delegates incorrectly listed several delegates as absent. The corrections were made.

Action: It was moved, seconded and carried to approve the corrected minutes of the September 22, 1982 House of Delegates meeting.*

Report of the Secretary

Due to Dr. Milton W. Hamolsky's late arrival, Dr.

Melvin Hoffman highlighted the following items in his written report:

1982 revision of the Workmen's Compensation reimbursement schedule: Physicians, lawyers and labor alike are displeased with 1982 legislation which links physician reimbursement for workmen's compensation cases to the Medicare fee schedule. RIMS officers have met with representatives of the specialty groups especially affected by the change, i.e., orthopedic surgeons, neurosurgeons, plastic surgeons, and emergency room physicians, as the first step in seeking remedial legislation. Dr. Hoffman said that RIMS' strategy probably will involve close liaison with labor with the Society coordinating physician participation. He emphasized the importance of physicians acting as a unified group.

Non-profit charitable foundation: It was noted that the Council is investigating the establishment of a 501.c.3 charitable foundation. In response to a question, Dr. Norman Baxter, Executive Director, said that the Society's tax status as a 501.c.6 organization precludes donors from claiming their donations as personal tax exemptions. A resolution to establish a charitable 501.c.3 foundation, is to be submitted to the Council at its February 1983 meeting.

Powers of the House of Delegates: In response to a comment by Dr. Albert Tetreault, Dr. Hoffman stated the issue of officers' conflict of interest on issues of concern to the Society would be addressed later during the meeting.

Action: It was moved, seconded, and carried to approve the Report of the Secretary as submitted.

Report of the Treasurer

Dr. Liffmann stated that a deficit of \$46,000 originally projected for calendar year 1983 had been reversed and the proposed budget now shows an anticipated surplus of \$2,300. Dr. Liffmann complimented Dr. Baxter and Society staff for their prudent management.

Action: It was moved, seconded, and carried to approve the Report of the Treasurer as submitted.

Recommendations from the Council

The Council recommended that the House approve the following actions:

RIMS Blue Cross/Blue Shield insurance program: The Council recommended approval of a mental health rider for all enrolled RIMS staff and physicians. The cost is \$16.70 annually for the family

* Published in the April, 1983 issue of the *Journal* (66:153-155):

plan and \$7.60 per year for an individual (Plan B) and \$17.28 annually for the family plan and \$7.92 for an individual under Plan 100. The rider would be mandatory for all participants. Coverage would not become effective until November, 1983 with the beginning of the new policy year.

Action: It was moved, seconded, and carried to approve the addition of a mental health rider to the RIMS-sponsored Blue Cross/Blue Shield insurance program.

Emergency medical services: The Council recommended approval of a position statement on emergency medical services to guide physicians on their interactions with emergency medical technicians in their offices and at accident scenes. Extensive discussion focused on the following issues:

- 1) Definition of the term "physician": It was noted that in some jurisdictions the term "physician" also includes others such as chiropractors. Rhode Island statute, however, restricts use of the term "physician" only to those who have completed approved medical training.
- 2) Patient transfers — The statement does not cover emergency services when the patient is transferred from one hospital to another although it states that certain EMS units are restricted to taking patients to certain hospitals.

Action: It was moved, seconded, and carried to approve the position statement, "Emergency Medical Services: Prehospital Medical Chain of Command."

Physician Directory: The Council recommended approval of the following statement: "To endorse the concept of a physician directory for consumers, contingent upon Rhode Island Medical Society participation in development of the format of such a directory and approval of the format by the House of Delegates." The following issues emerged during the House's discussion of the Council's proposal: 1) RIMS would not be financially liable for the publication of the directory; 2) The Council proposed development of a directory in response to consumer demand. Although physicians in one downstate Illinois community initially were reluctant to be included, for example, an overwhelming majority requested inclusion in the second edition; and 3) It would be mandatory to have a second edition in order to meet the requests of physicians to be included.

Action: It was moved, seconded and carried to approve the Council's recommendation with

addition of the words "and contents" after the word "format."

Report of the Benevolence Fund

The Benevolence Fund showed a balance of \$31,145.57 as of December 31, 1982 with disbursements to six persons totaling \$3,735.18 during the year. There was no House discussion.

Action: It was moved, seconded, and carried to approve the Report of the Benevolence Fund.

Report of the AMA Delegates

Drs. John J. Cunningham and Herbert F. Hager highlighted the following items in their written report on the AMA Interim Meeting, December 5-8, 1982:

Federal Trade Commission: The AMA unsuccessfully sought legislation which would have removed professions already regulated by the states (i.e., physicians, attorneys, CPAs, etc.) from the jurisdiction of the Federal Trade Commission. The AMA had sought this legislation in response to an ambiguous Supreme Court decision in June, 1982.

Joint Commission on the Accreditation of Hospitals: The AMA House of Delegates had expressed concern over JCAH attempts to redefine "medical staffs" and reaffirmed existing AMA policy which states that the primary objective of hospital accreditation is to assure quality patient care.

Medical Staffs: The AMA House established a Hospital Medical Staff Section with voting privileges in the House comparable to the existing sections on medical schools, medical students and residents.

Diagnostically-related groups (DRGs): The AMA House urged Congress and the Department of Health and Human Services to take "an extremely cautious approach to this proposal." Under DRG systems, reimbursement for hospital patients is linked to the patient's disease rather than to the actual treatments provided. It is a form of prospective reimbursement.

Action: It was moved, seconded and carried to approve the Report of the AMA Delegate.

New Business

The following agenda items were dealt with under "New Business."

RIMS dues policy: Dr. Herbert F. Hager proposed that RIMS dues policy correspond with the AMA's new policy adopted at the 1982 Interim Meeting as follows:

- 1) members suffering financial hardship, disability, or both;
- 2) retired members aged 65; and

3) members aged 70 regardless of retirement status.

All dues exemptions would be granted upon written request. During the extensive discussion which followed, several delegates expressed concern about the fiscal impact of this action and it was pointed out that RIMS members aged 70 and older already can request dues-exempt status under the Society's bylaws.

Action: The House moved, seconded, and defeated a proposal to link the Society's dues-exemption policy with the AMA's. It was later moved, seconded, and carried to refer the issue to the Membership Committee.

Report of the Committee on Standards and Credentials: It was recommended by the Committee on Standards and Credentials that the program requiring 60 credits of continuing medical education over a three year period be continued for 1982-1985.

Action: It was moved, seconded, and carried to accept the recommendation of the Committee on Standards and Credentials.

Nursing Homes: Dr. Melvin Hoffman submitted a

resolution on nursing homes for the House's consideration.

Action: It was moved, seconded, and carried to refer the proposed resolution on nursing homes to the Council for its action.

Role of state medical society presidents at AMA House of Delegates Meetings: Dr. Melvin Hoffman submitted a resolution for the House's consideration.

Action: It was moved, seconded, and carried to approve the proposed resolution on the function of state medical society presidents at the AMA House of Delegates.

Conflict of interest: Dr. Albert F. Tetreault recommended appointment of a committee to "investigate the comportment of RIMS officers" in their conduct of society business. The motion did not receive a second and no further action was taken.

Adjournment

The meeting adjourned at 3:55 p.m.

Respectfully submitted,
Milton W. Hamolsky, MD
Secretary

Cardiac Rehabilitation

The New England Clinic's *Program of Cardiac Rehabilitation* is designed to meet the needs of the patient following hospital treatment for acute myocardial infarction or coronary bypass surgery. Cardiologist, exercise physiologist, nutritionist, and attending physician assist the patient and family through the initial period of adjustment and rehabilitation.

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EDITOR'S MAILBOX

Use of ASFs in Rhode Island

To the Editor:

Your Ambulatory Surgical Facilities editorial (*RIMJ*, February, 1983) prompts this letter.

In 1975, Kent County Memorial Hospital (KCMH) initiated the first hospital-based Outpatient Surgery Unit in Rhode Island. A makeshift preparation area, minor surgery room, and recovery room were created out of a small auditorium and a former restroom in the hospital's basement. From these humble beginnings, we have grown to a plateau that now sees KCMH performing 46 per cent of all surgery on an outpatient basis. The nearly 5,896 procedures performed last year in this manner is testimony to the acceptance of the concept by our community and surgical staff. Our ever-expanding procedure list now totals 120 different surgeries conducted when all proper medical criteria are met.

The success of the program, which has won a New England Hospital Assembly Blue Ribbon Award, has led to the construction of a new and expanded unit. The new facility will include three operating rooms, two treatment rooms, one endoscopy room, a 28-bed recovery room, and waiting area. The \$3 million facility was financed by a successful community fund raising campaign, further evidence of the community's support of the program. Our medical staff demonstrated their support by contributing \$850,000 toward the campaign.

The movement towards the outpatient setting in surgery is increasing. Your encouragement of this concept is well considered.

William H. Lang, FACHA, Administrator
William E. McKenney, MD, Medical Director
Kent County Memorial Hospital

To the Editor:

The lead editorial in the February 1983 issue of the *Journal* left me bemused and incredulous. The lack of accurate data begins with the first sentence and pervades the entire piece.

The development of Ambulatory Surgical Facility concept in Rhode Island hasn't been glacial as noted in the editorial. If anything, the reality was ahead of its time. A facility established on Dudley Street in Providence ten or more years ago was in fact an Ambulatory Surgical Facility. In my opinion, it was prevented from fully developing its potential by strong regional forces and only succeeded years later when Blue Cross/Blue Shield agreed to reimbursement when they realized the error of their position.

Presently there *are* more than two Ambulatory Surgical Facilities. Kent County Hospital has had such a facility for five or more years; Woonsocket Hospital has been treating patients on an ambulatory basis for at least five years and has had an Ambulatory Surgical Facility unit in operation since June 1981. Fogarty Memorial Hospital also has been performing ambulatory surgery for a number of years and opened its separate unit on February 7, 1983.

A reluctance to use such facilities as noted in the editorial is pure nonsense. Not only is the facility a convenience to patient and surgeon, it is a savings cost-wise. The fact that third party carriers have ensured its success by delineating a long list of procedures that must be performed on an ambulatory basis, on pain of no compensation, reinforces the concept even more.

Regarding the Blackstone Valley Facility being a profit-making enterprise, don't worry. Blue Cross/Blue Shield will see to it that profit is limited and reasonable at best.

In conclusion, I might suggest that the *Rhode Island Medical Journal* expand its horizons beyond Providence and the Brown University Medical School to the outlying areas of the state. We are with it and intend to continue that way.

Francis L. Scarpaci, MD
Woonsocket, RI

(Continued on page 202)

Editor's Mailbox

(Continued from page 201)

We are pleased that significant progress is being made, as indicated in these letters. A recent review of the present state of ASF development in Rhode Island indicates the following:

1. Ambulatory surgery is being done with varying degrees of formality throughout the state.
2. South County Hospital and Rhode Island Hospital are the only hospitals in Rhode Island with separate ASF units.
3. Use of the ASF units is not mandatory in any hospital. Rather most hospitals publish a list of "suggested procedures" which should or can be done on an ambulatory basis.
4. Woonsocket Hospital has an "outpatient surgery department," but uses its regular operating and recovery rooms.

To make maximum and optimal use of the ASF principle, use should be mandatory for appropriate procedures in appropriate patients on pain of denial of reimbursement. — Ed.

Have you heard?

(Continued from page 196)

of the body can be imaged with good delineation of subtle parenchymal tissue. Linear array provides maximum diagnostic information for unique requirements of OB/GYN examinations.

• • •

Marion Laboratories recently announced that development of a new device for detection of bacteria called Bac-T-Screen®. The new device is designed to perform routine laboratory tests at low cost with substantial time savings for the laboratory. Bac-T-Screen is a compact dispensing and filtering system which automatically stains bacteria present in urine samples on special filter cards. The presence of bacterial infection is determined by noting color changes on the filter card. Results are available in two minutes enabling the physician to initiate therapy immediately.

• • •

Collagen Corporation recently announced expansion of its product line to include the Zyderm II® collagen implant. According to company officials, it is 85 per cent more concentrated than the Zyderm I® implant, permitting physicians to im-

plant more collagen per volume at each treatment session. Zyderm II collagen is used by dermatologists, plastic surgeons, and head and neck specialists to smooth out a wide range of skin depressions caused by disease, injury, surgery, and aging.

• • •

The Sequoia-Turner Corporation has introduced a new low-cost, compact spectrophotometer that features 7nm bandwidth and a convenient digital readout. The Model 340 Spectrophotometer® has a continuous wavelength range of 330nm to 1000nm to cover all routine colorimetric tests. The range can be extended with an easily-installed UV accessory. Three new controls simplify operation and a digital display provides easy readability.

• • •

The Contrast Sensitivity System, available from American Optical Corporation, may provide an early warning of many visual disorders and certain ocular diseases. Company officials claim that the test may become an essential component of visual examinations by ophthalmologists and neurologists. While regular Snellen activity provides a measure of the quantity of vision, contrast sensitivity measures visual "quality." Major applications of the test include: detecting macular disease and retinal change; detecting visual loss in multiple sclerosis; tracing contact lens performance; early detection of glaucoma and ocular hypertension; tracking visual performance in aphakia; quantifying visual effects from corneal edema; predicting the mobility of low-vision patients; and detecting the early effects of diabetes.

• • •

Diagnosis

Primary degenerative dementia, senile onset with depression. Arteriosclerotic heart disease with old myocardial infarction. Gouty arthritis. Allergic to codfish.

. . . Seen on medical history.

Anxious patients improve in just a few days

And what is more reassuring to an excessively anxious patient than medication that promptly starts to relieve his discomforting symptoms? Valium® (diazepam/Roche) begins working within 30 to 90 minutes. Patients continue to improve in just a few days, and relief continues throughout the course of treatment.

There are other important benefits with Valium as well—along with its broad clinical range, Valium has an efficacy/safety profile that few, if any, drugs can match. This record has been achieved with extensive clinical experience, undoubtedly including yours. And, as you must have observed, side effects more serious than drowsiness, fatigue or ataxia rarely occur. Nevertheless, as with any CNS-acting agent, patients should be cautioned about driving, operating hazardous machinery or ingesting alcohol or other CNS-depressant drugs while taking Valium.

Yet another benefit Valium affords is flexibility.



Available in 2-mg, 5-mg and 10-mg scored tablets, Valium enables you to titrate dosage to individual patient needs. For the geriatric patient, a starting dosage of 2 to 2½ mg once or twice a day is recommended. And, for patients who forget or skip medication, you can prescribe Valrelease™ (diazepam/Roche) 15-mg slow-release capsules,

knowing that Valrelease will assure all the benefits of Valium 5 mg *t.i.d.* with the convenience of once-a-day dosage.

Discontinuation of Valium (or Valrelease) is typically as smooth as its start in short-term therapy. However, Valium and Valrelease should be discontinued gradually after more extended treatment. As you diminish dosage, the built-in tapering action of Valium and Valrelease will help avoid rapidly recurring anxiety symptoms and symptoms of withdrawal, and will help ease the patient's transition to independent coping when therapeutic goals have been achieved.

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Valium® (diazepam/Roche)  Tablets
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Injectable Valium® (diazepam/Roche) 

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Management of anxiety disorders, or short-term relief of symptoms of anxiety. Anxiety or tension associated with the stress of everyday life usually does not require treatment with an anxiolytic. Symptomatic relief of acute agitation, tremor, impending or acute delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in: relief of skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders; athetosis; stiff-man syndrome. *Oral forms* may be used adjunctively in convulsive disorders, but not as sole therapy. *Injectable form* may also be used adjunctively in: status epilepticus; severe recurrent seizures; tetanus; anxiety, tension or acute stress reactions prior to endoscopic/surgical procedures; cardioversion.

The effectiveness of diazepam in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

Contraindications: Tablets or capsules in children under 6 months of age; known hypersensitivity; acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: As with most CNS-acting drugs, caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals (drug addicts or alcoholics) under careful surveillance because of predisposition to habituation/dependence.

Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because their use is rarely a matter of urgency and because of increased risk of congenital malformations, as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

ORAL: Advise patients against simultaneous ingestion of alcohol and other CNS depressants.

Not of value in treatment of psychotic patients; should not be employed in lieu of appropriate treatment. When using oral forms adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increase in dosage of standard anticonvulsant medication; abrupt withdrawal in such cases may be associated with temporary increase in frequency and/or severity of seizures.

INJECTABLE: *To reduce the possibility of venous thrombosis, phlebitis, local irritation, swelling and, rarely, vascular impairment when used I.V.:* inject slowly, taking at least one minute for each 5 mg (1 ml) given; *do not use small veins, i.e., dorsum of hand or wrist; use extreme care to avoid intra-arterial administration or extravasation. Do not mix or dilute with other solutions or drugs in syringe or infusion flask. If it is not feasible to administer Injectable Valium directly I.V., it may be injected slowly through the infusion tubing as close as possible to the vein insertion.*

Administer with extreme care to elderly, very ill, those with limited pulmonary reserve because of possibility of apnea and/or cardiac arrest; concomitant use of barbiturates, alcohol or other CNS depressants increases depression with increased risk of apnea; have resuscitative facilities available. When used with narcotic analgesic eliminate or reduce narcotic dosage at least 1/3, administer in small increments. Should not be administered to patients in shock, coma, acute alcoholic intoxication with depression of vital signs.

Has precipitated tonic status epilepticus in patients treated for petit mal status or petit mal variant status. Not recommended for OB use.

Efficacy/safety not established in neonates (age 30 days or less); prolonged CNS depression observed. In children, give slowly (up to 0.25 mg/kg over 3 minutes) to avoid apnea or prolonged somnolence; can be repeated after 15 to 30 minutes. If no relief after third administration, appropriate adjunctive therapy is recommended.

Precautions: If combined with other psychotropics or anticonvulsants, carefully consider individual pharmacologic effects—particularly with known compounds which may potentiate action of diazepam, i.e., phenothiazines, narcotics, barbiturates, MAO inhibitors and antidepressants. Protective measures indicated in highly anxious patients with accompanying depression who may have suicidal tendencies. Observe usual precautions in impaired hepatic function; avoid accumulation in patients with compromised kidney function. Limit oral dosage to smallest effective amount in elderly and debilitated to preclude ataxia or over sedation (initially 2 to 2½ mg once or twice daily, increasing gradually as needed and tolerated).

The clearance of diazepam and certain other benzodiazepines can be delayed in association with Tagamet (cimetidine) administration. The clinical significance of this is unclear.

INJECTABLE: Although promptly controlled, seizures may return; readminister if necessary; not recommended for long-term maintenance therapy. Laryngospasm/increased cough reflex are possible during peroral endoscopic procedures; use topical anesthetic, have necessary countermeasures available. Hypotension or muscular weakness possible, particularly when used with narcotics, barbiturates or alcohol. Use lower doses (2 to 5 mg) for elderly/debilitated.

Adverse Reactions: Side effects most commonly reported were drowsiness, fatigue, ataxia. Infrequently encountered were confusion, constipation, depression, diplopia, dysarthria, headache, hypotension, incontinence, jaundice, changes in libido, nausea, changes in salivation, skin rash, slurred speech, tremor, urinary retention, vertigo, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity,

insomnia, rage, sleep disturbances and stimulation have been reported; should these occur, discontinue drug.

Because of isolated reports of neutropenia and jaundice, periodic blood counts, liver function tests advisable during long-term therapy. Minor changes in EEG patterns, usually low-voltage fast activity, observed in patients during and after diazepam therapy are of no known significance.

INJECTABLE: Venous thrombosis/phlebitis at injection site, hypoactivity, syncope, bradycardia, cardiovascular collapse, nystagmus, urticaria, hiccups, neutropenia. In peroral endoscopic procedures, coughing, depressed respiration, dyspnea, hyperventilation, laryngospasm/pain in throat or chest have been reported.

Dosage: Individualize for maximum beneficial effect.

ORAL: **Adults:** Anxiety disorders, relief of symptoms of anxiety—Valium (diazepam/Roche) **tablets**, 2 to 10 mg b.i.d. to q.i.d.; or 1 or 2 Valrelease **capsules** (15 to 30 mg) daily. Acute alcohol withdrawal—**tablets**, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; or 2 **capsules** (30 mg) the first 24 hours, then 1 **capsule** (15 mg) daily as needed. Adjunctively in skeletal muscle spasm—**tablets**, 2 to 10 mg t.i.d. or q.i.d.; or 1 or 2 **capsules** (15 to 30 mg) once daily. Adjunctively in convulsive disorders—**tablets**, 2 to 10 mg b.i.d. to q.i.d.; or 1 or 2 **capsules** (15 to 30 mg) once daily.

Geriatric or debilitated patients: **Tablets**—2 to 2½ mg 1 or 2 times daily initially, increasing as needed and tolerated (see Precautions). **Capsules**—1 capsule (15 mg) daily when 5 mg oral Valium has been determined as the optimal daily dose.

Children: **Tablets**—1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use in children under 6 months). **Capsules**—1 capsule (15 mg) daily when 5 mg oral Valium has been determined as the optimal daily dose (not for use in children under 6 months).

INJECTABLE: Usual initial dose in older children and adults is 2 to 20 mg I.M. or I.V., depending on indication and severity. Larger doses may be required in some conditions (tetanus). In acute conditions injection may be repeated within 1 hour, although interval of 3 to 4 hours is usually satisfactory. Lower doses (usually 2 to 5 mg) with slow dosage increase for elderly or debilitated patients and when sedative drugs are added. (See Warnings and Adverse Reactions.) For dosages in infants and children see below; have resuscitative facilities available.

I.M. use: by deep injection into the muscle.

I.V. use: inject slowly, take at least one minute for each 5 mg (1 ml) given. Do not use small veins, i.e., dorsum of hand or wrist. Use extreme care to avoid intra-arterial administration or extravasation. Do not mix or dilute Valium with other solutions or drugs in syringe or infusion flask. If it is not feasible to administer Valium directly I.V., it may be injected slowly through the infusion tubing as close as possible to the vein insertion.

Moderate anxiety disorders and symptoms of anxiety, 2 to 5 mg I.M. or I.V., and severe anxiety disorders and symptoms of anxiety, 5 to 10 mg I.M. or I.V., repeat in 3 to 4 hours if necessary; acute alcohol withdrawal, 10 mg I.M. or I.V. initially, then 5 to 10 mg in 3 to 4 hours if necessary. Muscle spasm, in adults, 5 to 10 mg I.M. or I.V. initially, then 5 to 10 mg in 3 to 4 hours if necessary (tetanus may require larger doses); in children administer I.V. slowly; for tetanus in infants over 30 days of age, 1 to 2 mg I.M. or I.V., repeat every 3 to 4 hours if necessary; in children 5 years or older, 5 to 10 mg repeated every 3 to 4 hours as needed. Respiratory assistance should be available.

Status epilepticus, severe recurrent convulsive seizures (I.V. route preferred), 5 to 10 mg adult dose administered slowly, repeat at 10- to 15-minute intervals up to 30 mg maximum. Repeat in 2 to 4 hours if necessary, keeping in mind possibility of residual active metabolites. Use caution in presence of chronic lung disease or unstable cardiovascular status. Infants (over 30 days) and children (under 5 years), 0.2 to 0.5 mg slowly every 2 to 5 min., up to 5 mg (I.V. preferred). Children 5 years plus, 1 mg every 2 to 5 min., up to 10 mg (slow I.V. preferred); repeat in 2 to 4 hours if needed. EEG monitoring may be helpful.

In endoscopic procedures, titrate I.V. dosage to desired sedative response, generally 10 mg or less but up to 20 mg (if narcotics are omitted) immediately prior to procedure; if I.V. cannot be used, 5 to 10 mg I.M. approximately 30 minutes prior to procedure. As preoperative medication, 10 mg I.M.; in cardioversion, 5 to 15 mg I.V. within 5 to 10 minutes prior to procedure. Once acute symptomatology has been properly controlled with injectable form, patient may be placed on oral form if further treatment is required.

Management of Overdosage: Manifestations include somnolence, confusion, coma, diminished reflexes. Monitor respiration, pulse, blood pressure; employ general supportive measures, I.V. fluids, adequate airway. Use levarterenol or metaraminol for hypotension. Dialysis is of limited value.

How Supplied:

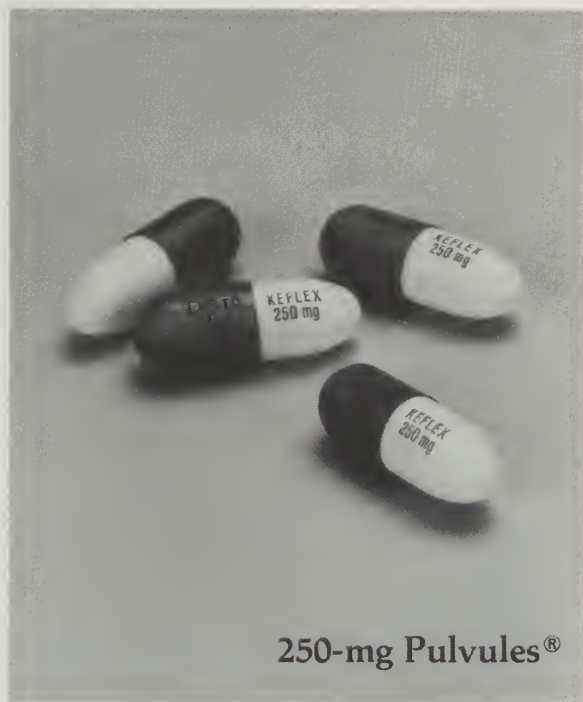
ORAL: Valium scored tablets—2 mg, white; 5 mg, yellow; 10 mg, blue—bottles of 100 and 500; Prescription Paks of 50, available in trays of 10; Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25 and in boxes containing 10 strips of 10.

Valrelease (diazepam/Roche) slow-release capsules—15 mg (yellow and blue), bottles of 100; Prescription Paks of 30.

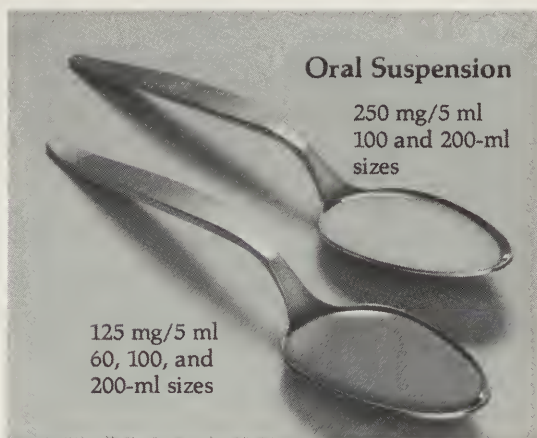
INJECTABLE: Ampuls, 2 ml, boxes of 10; Vials, 10 ml, boxes of 1; Tel-E-Ject® (disposable syringes), 2 ml, boxes of 10. Each ml contains 5 mg diazepam, compounded with 40% propylene glycol, 10% ethyl alcohol, 5% sodium benzoate and benzoic acid as buffers, and 1.5% benzyl alcohol as preservative.



easy to take



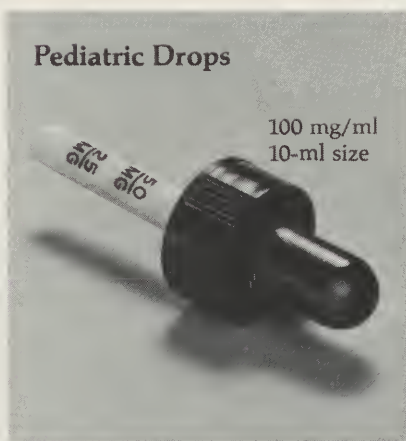
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Reply to: Box 101, Harmony, Rhode Island 02829

References:

1. Stone PH, Turz G, Muller JE. Efficacy of nifedipine therapy for refractory angina pectoris. *Am Heart J* 104 672-681. September 1982
2. Antman E, Muller J, Goldberg S, et al. Nifedipine therapy for coronary artery spasm. Experience in 127 patients. *N Engl J Med* 302 1269-1273. June 5, 1980.

BRIEF SUMMARY

PROCARDIA* (nifedipine) CAPSULES

For Oral Use

INDICATIONS AND USAGE: I. Vasospastic Angina: PROCARDIA (nifedipine) is indicated for the management of vasospastic angina confirmed by any of the following criteria: 1) classical pattern of angina at rest accompanied by ST segment elevation, 2) angina or coronary artery spasm provoked by ergonovine, or 3) angiographically demonstrated coronary artery spasm. In those patients who have had angiography, the presence of significant fixed obstructive disease is not incompatible with the diagnosis of vasospastic angina, provided that the above criteria are satisfied. PROCARDIA may also be used where the clinical presentation suggests a possible vasospastic component but where vasospasm has not been confirmed, e.g., where pain has a variable threshold on exertion or in unstable angina where electrocardiographic findings are compatible with intermittent vasospasm, or when angina is refractory to nitrates and/or adequate doses of beta blockers.

II. Chronic Stable Angina (Classical Effort-Associated Angina): PROCARDIA is indicated for the management of chronic stable angina (effort-associated angina) without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or organic nitrates or who cannot tolerate those agents.

In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks duration in reducing angina frequency and increasing exercise tolerance but confirmation of sustained effectiveness and evaluation of long-term safety in those patients are incomplete.

Controlled studies in small numbers of patients suggest concomitant use of PROCARDIA and beta blocking agents may be beneficial in patients with chronic stable angina, but available information is not sufficient to predict with confidence the effects of concurrent treatment, especially in patients with compromised left ventricular function or cardiac conduction abnormalities. When introducing such concomitant therapy, care must be taken to monitor blood pressure closely since severe hypotension can occur from the combined effects of the drugs. (See Warnings.)

CONTRAINDICATIONS: Known hypersensitivity reaction to PROCARDIA

WARNINGS: Excessive Hypotension: Although in most patients the hypotensive effect of PROCARDIA is modest and well tolerated, occasional patients have had excessive and poorly tolerated hypotension. These responses have usually occurred during initial titration or at the time of subsequent upward dosage adjustment, and may be more likely in patients on concomitant beta blockers.

Severe hypotension and/or increased fluid volume requirements have been reported in patients receiving PROCARDIA together with a beta blocking agent who underwent coronary artery bypass surgery using high dose fentanyl anesthesia. The interaction with high dose fentanyl appears to be due to the combination of PROCARDIA and a beta blocker, but the possibility that it may occur with PROCARDIA alone, with low doses of fentanyl, in other surgical procedures, or with other narcotic analgesics cannot be ruled out. In PROCARDIA treated patients where surgery using high dose fentanyl anesthesia is contemplated, the physician should be aware of these potential problems and if the patient's condition permits, sufficient time (at least 36 hours) should be allowed for PROCARDIA to be washed out of the body prior to surgery.

Increased Angina: Occasional patients have developed well documented increased frequency, duration or severity of angina on starting PROCARDIA or at the time of dosage increases. The mechanism of this response is not established but could result from decreased coronary perfusion associated with decreased diastolic pressure with increased heart rate, or from increased demand resulting from increased heart rate alone.

Beta Blocker Withdrawal: Patients recently withdrawn from beta blockers may develop a withdrawal syndrome with increased angina, probably related to increased sensitivity to catecholamines. Initiation of PROCARDIA treatment will not prevent this occurrence and might be expected to exacerbate it by provoking reflex catecholamine release. There have been occasional reports of increased angina in a setting of beta blocker withdrawal and PROCARDIA initiation. It is important to taper beta blockers if possible, rather than stopping them abruptly before beginning PROCARDIA.

Congestive Heart Failure: Rarely patients, usually receiving a beta blocker, have developed heart failure after beginning PROCARDIA. Patients with tight aortic stenosis may be at greater risk for such an event.

PRECAUTIONS: General: Hypotension. Because PROCARDIA decreases peripheral vascular resistance, careful monitoring of blood pressure during the initial administration and titration of PROCARDIA is suggested. Close observation is especially recommended for patients already taking medications that are known to lower blood pressure. (See Warnings.)

Peripheral edema: Mild to moderate peripheral edema, typically associated with arterial vasodilation and not due to left ventricular dysfunction, occurs in about one in ten patients treated with PROCARDIA. This edema occurs primarily in the lower extremities and usually responds to diuretic therapy. With patients whose angina is complicated by congestive heart failure, care should be taken to differentiate this peripheral edema from the effects of increasing left ventricular dysfunction.

Drug interactions: Beta-adrenergic blocking agents. (See Indications and Warnings.) Experience in over 1400 patients in a non-comparative clinical trial has shown that concomitant administration of PROCARDIA and beta-blocking agents is usually well tolerated, but there have been occasional literature reports suggesting that the combination may increase the likelihood of congestive heart failure, severe hypotension or exacerbation of angina.

Long-acting nitrates. PROCARDIA may be safely co-administered with nitrates, but there have been no controlled studies to evaluate the anti-anginal effectiveness of this combination.

Digitalis: Administration of PROCARDIA with digoxin increased digoxin levels in nine of twelve normal volunteers. The average increase was 45%. Another investigator found no increase in digoxin levels in thirteen patients with coronary artery disease. In an uncontrolled study of over two hundred patients with congestive heart failure during which digoxin blood levels were not measured, digitalis toxicity was not observed. Since there have been isolated reports of patients with elevated digoxin levels, it is recommended that digoxin levels be monitored when initiating, adjusting, and discontinuing PROCARDIA to avoid possible over- or under-digitalization.

Carcinogenesis, mutagenesis, impairment of fertility: When given to rats prior to mating, nifedipine caused reduced fertility at a dose approximately 30 times the maximum recommended human dose.

Pregnancy: Category C. Please see full prescribing information with reference to teratogenicity in rats, embryotoxicity in rats, mice and rabbits, and abnormalities in monkeys.

ADVERSE REACTIONS: The most common adverse events include dizziness or light-headedness, peripheral edema, nausea, weakness, headache and flushing each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0.5%. Syncopal episodes did not recur with reduction in the dose of PROCARDIA or concomitant anti-anginal medication. Additionally the following have been reported: muscle cramps, nervousness, dyspnea, nasal and chest congestion, diarrhea, constipation, inflammation, joint stiffness, shakiness, sleep disturbances, blurred vision, difficulties in balance, dermatitis, pruritus, urticaria, fever, sweating, chills, and sexual difficulties. Very rarely, introduction of PROCARDIA therapy was associated with an increase in anginal pain, possibly due to associated hypotension.

In addition, more serious adverse events were observed, not readily distinguishable from the natural history of the disease in these patients. It remains possible, however, that some or many of these events were drug related. Myocardial infarction occurred in about 4% of patients and congestive heart failure or pulmonary edema in about 2%. Ventricular arrhythmias or conduction disturbances each occurred in fewer than 0.5% of patients.

Laboratory Tests: Rare, mild to moderate, transient elevations of enzymes such as alkaline phosphatase, CPK, LOH, SGOT, and SGPT have been noted, and a single incident of significantly elevated transaminases and alkaline phosphatase was seen in a patient with a history of gall bladder disease after about eleven months of nifedipine therapy. The relationship to PROCARDIA therapy is uncertain. These laboratory abnormalities have rarely been associated with clinical symptoms. Cholestasis, possibly due to PROCARDIA therapy, has been reported twice in the extensive world literature.

HOW SUPPLIED: Each orange, soft gelatin PROCARDIA CAPSULE contains 10 mg of nifedipine. PROCARDIA CAPSULES are supplied in bottles of 100 (NOC 0069-2600-66), 300 (NOC 0069-2600-72), and unit dose (10x10) (NOC 0069-2600-41). The capsules should be protected from light and moisture and stored at controlled room temperature 59° to 77°F (15° to 25°C) in the manufacturer's original container.

More detailed professional information available on request

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PFIZER INC

*"I can do things that I
couldn't do for 3 yrs. including
joining the human race again."*



*Quoted from an unsolicited
letter received by Pfizer from an
angina patient. While this patient's experience
is representative of many
unsolicited comments received,
not all patients will respond to
Procordia nor will they all
respond to the same degree.*

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*"My daily routine consisted of
sitting in my chair trying to stay alive."*

*"My doctor switched me to
PROCARDIA[*] as soon as it became
available. The change in my condition
is remarkable."*

*"I shop, cook and can plant
flowers again."*

*"I have been able to do volunteer
work...and feel needed and useful
once again."*

PROCARDIA can mean the return to a more normal life for your patients—having fewer anginal attacks,¹ taking fewer nitroglycerin tablets,² doing more, and being more productive once again.

Side effects are usually mild (most frequently reported are dizziness or lightheadedness, peripheral edema, nausea, weakness, headache and flushing, each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0.5%).



for the varied faces of angina

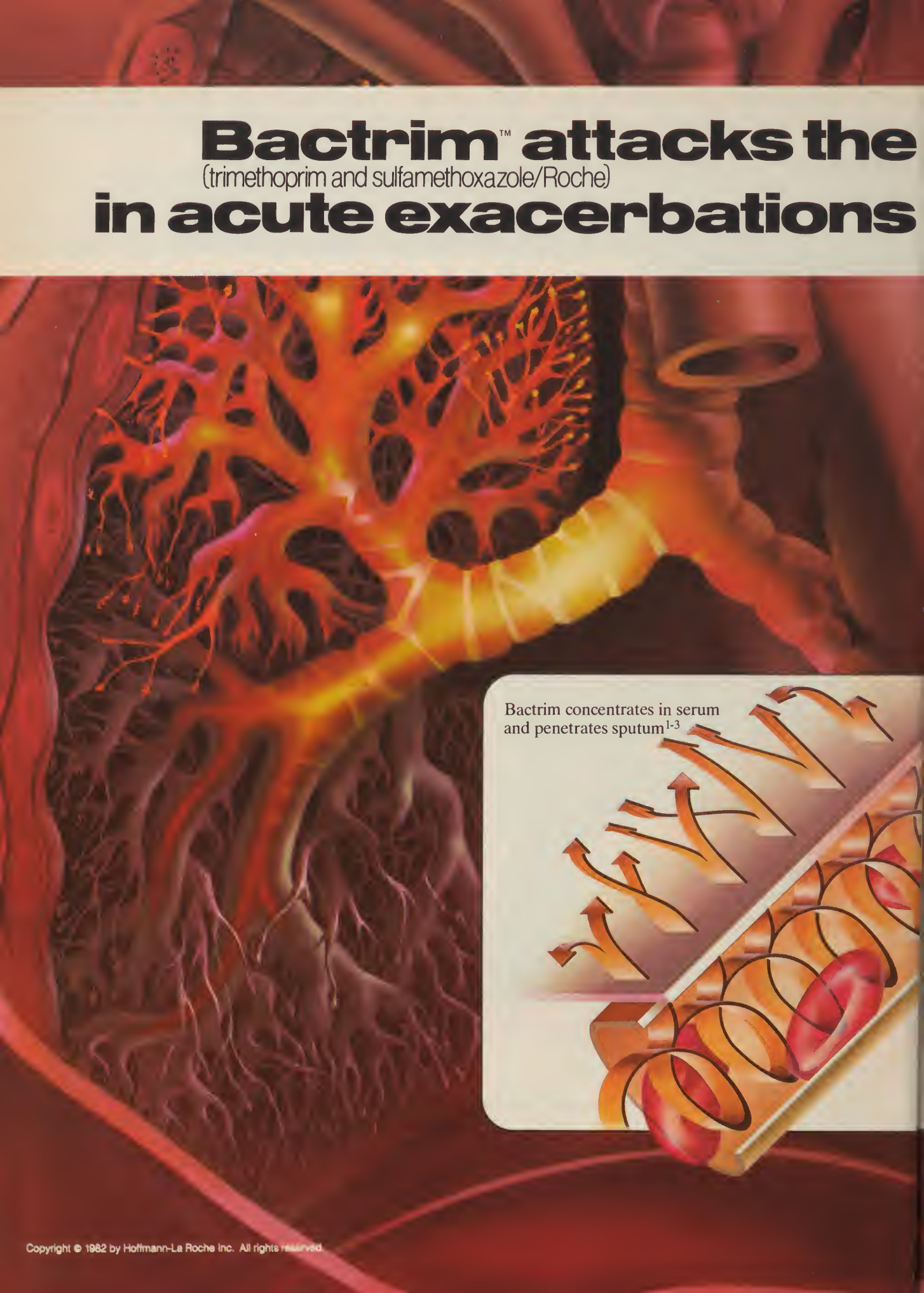
PROCARDIA[®]
(NIFEDIPINE) Capsules 10 mg

*Procordia is indicated for the management of:

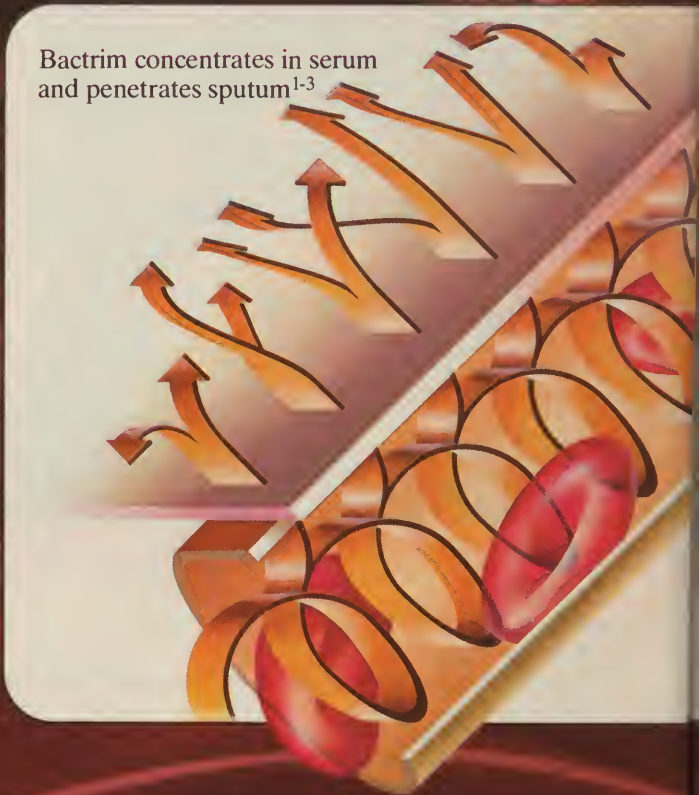
- 1) Confirmed vasospastic angina.
- 2) Angina where the clinical presentation suggests a possible vasospastic component.
- 3) Chronic stable angina without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or nitrates or who cannot tolerate these agents. In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks' duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in these patients are incomplete.

Please see PROCARDIA brief summary on adjoining page.

Bactrim[™] attacks the (trimethoprim and sulfamethoxazole/Roche) **in acute exacerbations**



Bactrim concentrates in serum
and penetrates sputum¹⁻³



major pathogens of chronic bronchitis*

Bactrim clears sputum of susceptible bacteria

In sputum cultures from patients with acute exacerbations of chronic bronchitis, *H. influenzae* and *S. pneumoniae* are isolated more often than any other pathogens.^{4,5} One study of transtracheal aspirates from 76 patients with acute exacerbations found that 80% of the isolates were of these two pathogens.⁵

Bactrim is effective *in vitro* against most strains of both *S. pneumoniae* and *H. influenzae*—even ampicillin-resistant strains. And in acute exacerbations of chronic bronchitis involving these two pathogens, sputum cultures taken seven days after a two-week course of therapy showed that Bactrim eradicated these bacteria in 91% (50 of 55) of the patients treated.⁶

Bactrim reduces coughing and sputum production

In three double-blind comparisons with ampicillin *q.i.d.*, Bactrim DS proved equally effective on all clinical parameters.^{7,9} Bactrim reduced the frequency and severity of coughing, reduced the amount of sputum produced and cleared the sputum of purulence.

Bactrim has the added advantages of *b.i.d.* dosage convenience and a lower incidence of diarrhea than with ampicillin, and it is useful in patients allergic to penicillins.

Bactrim also proved more effective than tetracyclines in 10 clinical trials

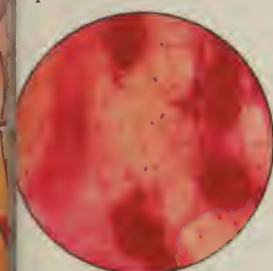
involving nearly 700 patients.¹⁰ Overall clinical condition of the patients, changes in sputum purulence, reduction in sputum volume and microbiological clearance of pathogens—all improved more with Bactrim therapy than with tetracyclines. G.I. side effects occurred in only 7% of patients treated with Bactrim compared with 12% of tetracycline-treated patients. (See Adverse Reactions in summary of product information on next page.)

Bactrim is contraindicated in pregnancy at term and nursing mothers, infants under two months of age, documented megaloblastic anemia due to folate deficiency and hypersensitivity.

Bactrim DS. For acute exacerbations of chronic bronchitis in adults* when it offers an advantage over single-agent antibacterials.

References: 1. Hughes DTD, Bye A, Hodder P: *Adv Antimicrob Antineoplastic Chemother* 112:1105-1106, 1971. 2. Jordan GW et al: *Can Med Assoc J* 112:91S-95S, Jun 14, 1975. 3. Beck H, Pechere JC: *Prog Antimicrob Anticancer Chemother* 1:663-667, 1969. 4. Quintiliani R: Microbiological and therapeutic considerations in exacerbations of chronic bronchitis, in *Chronic Bronchitis and Its Acute Exacerbations: Current Diagnostic and Therapeutic Concepts*; Princeton Junction, NJ, Communications Media for Education, Inc., 1980, pp. 9-12. 5. Schreiner A et al: *Infection* 6(2):54-56, 1978. 6. Data on file, Hoffmann-La Roche Inc., Nutley, NJ. 7. Chodosh S: Treatment of acute exacerbations of chronic bronchitis: results of a double-blind crossover clinical trial, in *Chronic Bronchitis and Its Acute Exacerbations: Current Diagnostic and Therapeutic Concepts*. *Op. cit.*, pp. 15-16. 8. Chervinsky P: Double-blind clinical comparisons between trimethoprim-sulfamethoxazole (Bactrim™) and ampicillin in the treatment of bronchitic exacerbations. *Ibid.*, pp. 17-18. 9. Dulfano MJ: Trimethoprim-sulfamethoxazole vs. ampicillin in the treatment of exacerbations of chronic bronchitis. *Ibid.*, pp. 19-20. 10. Medici TC: Trimethoprim-sulfamethoxazole (Bactrim™) in treating acute exacerbations of chronic bronchitis: summary of European clinical experience. *Ibid.*, pp. 13-14.

attacks *H. influenzae*—even
ampicillin-resistant strains



attacks *S. pneumoniae*



Economical b.i.d.

Bactrim™ DS

(160 mg trimethoprim and 800 mg sulfamethoxazole/Roche)

*Due to susceptible organisms. Please see next page for summary of product information.

BactrimTM

(trimethoprim and sulfamethoxazole/Roche)

Before prescribing, please consult complete product information, a summary of which follows:

Indications and Usage: For the treatment of urinary tract infections due to susceptible strains of the following organisms: *Escherichia coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis*, *Proteus vulgaris*, *Proteus morganii*. It is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single effective antibacterial agent rather than the combination. *Note:* The increasing frequency of resistant organisms limits the usefulness of all antibacterials, especially in these urinary tract infections. For acute otitis media in children due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over other antimicrobials. To date, there are limited data on the safety of repeated use of Bactrim in children under two years of age. Bactrim is not indicated for prophylactic or prolonged administration in otitis media at any age.

For acute exacerbations of chronic bronchitis in adults due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over a single antimicrobial agent.

For enteritis due to susceptible strains of *Shigella flexneri* and *Shigella sonnei* when antibacterial therapy is indicated.

Also for the treatment of documented *Pneumocystis carinii* pneumonitis.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; patients with documented megaloblastic anemia due to folate deficiency; pregnancy at term; nursing mothers because sulfonamides are excreted in human milk and may cause kernicterus; infants less than 2 months of age.

Warnings: BACTRIM SHOULD NOT BE USED TO TREAT STREPTOCOCCAL

PHARYNGITIS. Clinical studies show that patients with group A β -hemolytic streptococcal tonsillopharyngitis have higher incidence of bacteriologic failure when treated with Bactrim than do those treated with penicillin. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hemopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

Precautions: *General:* Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function. Bactrim may prolong prothrombin time in those receiving warfarin; reassess coagulation time when administering Bactrim to these patients.

Pregnancy: Teratogenic Effects: Pregnancy Category C. Because trimethoprim and sulfamethoxazole may interfere with folic acid metabolism, use during pregnancy only if potential benefits justify the potential risk to the fetus.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea, pseudomembranous colitis and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: Not recommended for infants less than two months of age.

URINARY TRACT INFECTIONS AND SHIGELLOSIS IN ADULTS AND CHILDREN, AND ACUTE OTITIS MEDIA IN CHILDREN:

Adults: Usual adult dosage for urinary tract infections—1 DS-tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days. Use identical daily dosage for 5 days for shigellosis.

Children: Recommended dosage for children with urinary tract infections or acute otitis media—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. Use identical daily dosage for 5 days for shigellosis.

For patients with renal impairment: Use recommended dosage regimen when creatinine clearance is above 30 ml/min. If creatinine clearance is between 15 and 30 ml/min, use one-half the usual regimen. Bactrim is not recommended if creatinine clearance is below 15 ml/min.

ACUTE EXACERBATIONS OF CHRONIC BRONCHITIS IN ADULTS:

Usual adult dosage: 1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 14 days.

PNEUMOCYSTIS CARINII PNEUMONITIS:

Recommended dosage: 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.

Supplied: Double Strength (DS) tablets, each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100; Tel-E-Dose[®] packages of 100; Prescription Paks of 20 and 28. Tablets, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose[®] packages of 100; Prescription Paks of 40. *Pediatric Suspension*, containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); cherry flavored—bottles of 100 ml and 16 oz (1 pint). *Suspension*, containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); fruit-licorice flavored—bottles of 16 oz (1 pint).



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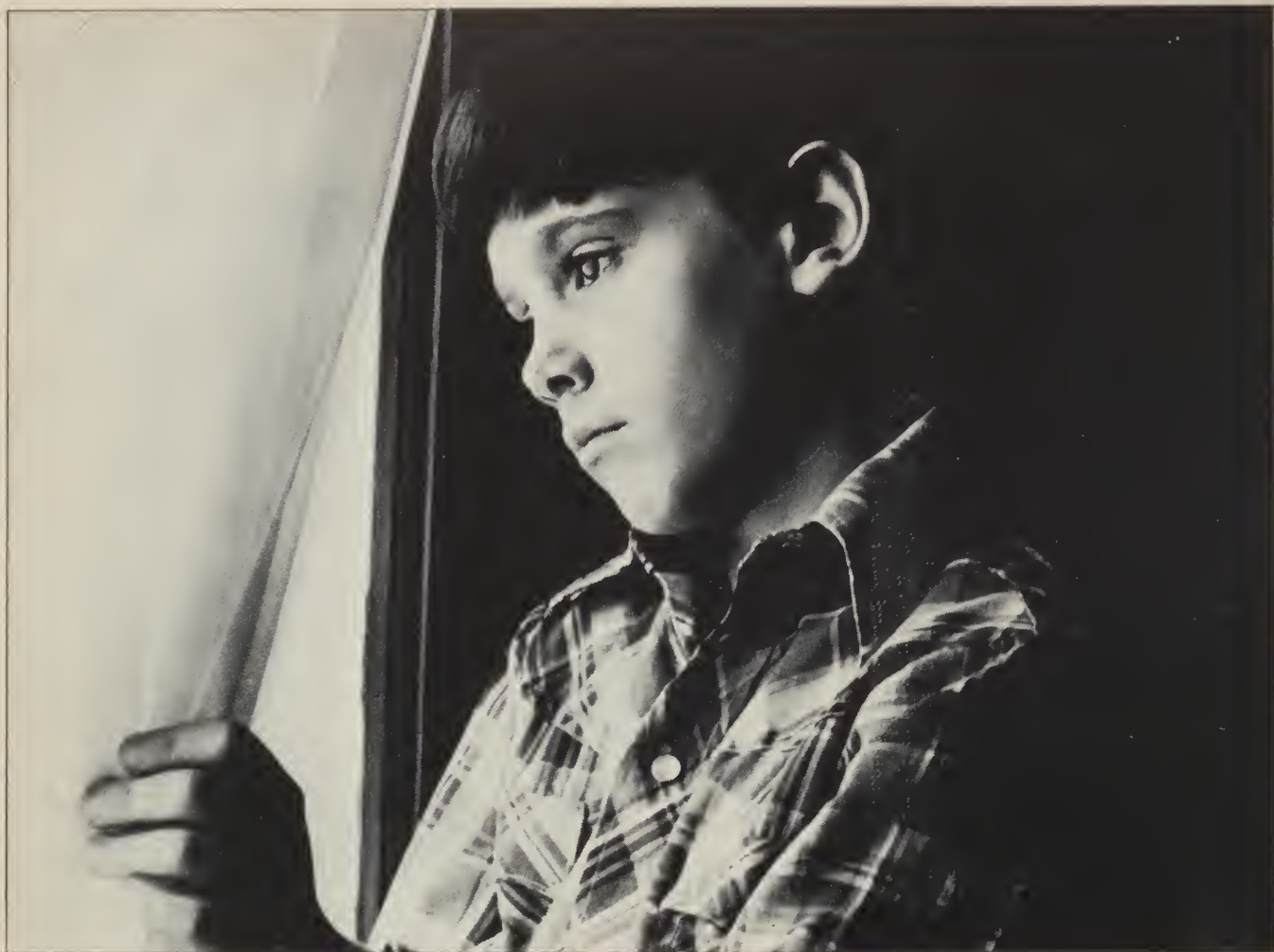
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- Contraindicated in patients who are pregnant or hypersensitive to flurazepam.
- Caution patients about drinking alcohol, driving or operating hazardous machinery during therapy.



References: 1. Kales A et al: *J Clin Pharmacol* 17:207-213, Apr 1977 and data on file, Hoffmann-La Roche Inc., Nutley, NJ. 2. Kales A: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. 3. Zimmerman AM: *Curr Ther Res* 13:18-22, Jan 1971. 4. Kales A et al: *JAMA* 241:1692-1695, Apr 20, 1979. 5. Kales A, Scharf MB, Kales JD: *Science* 201:1039-1041, Sep 15, 1978. 6. Kales A et al: *Clin Pharmacol Ther* 19:576-583, May 1976. 7. Kales A, Kales JD: *Pharmacol Physicians* 4:1-6, Sep 1970. 8. Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc* 27:541-546, Dec 1979. 9. Dement WC et al: *Behav Med* 5:25-31, Oct 1978. 10. Vogel GW: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. 11. Karacan I, Williams RL, Smith JR: The

sleep laboratory in the investigation of sleep and sleep disturbances. Scientific exhibit at the 124th annual meeting of the American Psychiatric Association, Washington, DC, May 3-7, 1971. 12. Pollak CP, McGregor PA, Weitzman ED: The effects of flurazepam on daytime sleep after acute sleep-wake cycle reversal. Presented at the 15th annual meeting of the Association for Psychophysiological Study of Sleep, Edinburgh, Scotland, June 30-July 4, 1975. 13. Data on file, Hoffmann-La Roche Inc., Nutley, NJ.

Dalmane®^{IV}
(flurazepam HCl/Roche)

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; in acute or chronic medical situations requiring restful sleep. Objective sleep laboratory data have shown effectiveness for at least 28 consecutive nights of administration. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended. Repeated therapy should only be undertaken with appropriate patient evaluation.

Contraindications: Known hypersensitivity to flurazepam HCl; pregnancy. Benzodiazepines may cause fetal damage when administered during pregnancy. Several studies suggest an increased risk of congenital malformations associated with benzodiazepine use during the first trimester. Warn patients of the potential risks to the fetus should the possibility of becoming pregnant exist while receiving flurazepam. Instruct patient to discontinue drug prior to becoming pregnant. Consider the possibility of pregnancy prior to instituting therapy.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, e.g., excitement, stimulation and hyperactivity.

Dosage: Individualize for maximum beneficial effect. **Adults:** 30 mg usual dosage; 15 mg may suffice in some patients. **Elderly or debilitated patients:** 15 mg recommended initially until response is determined.

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.



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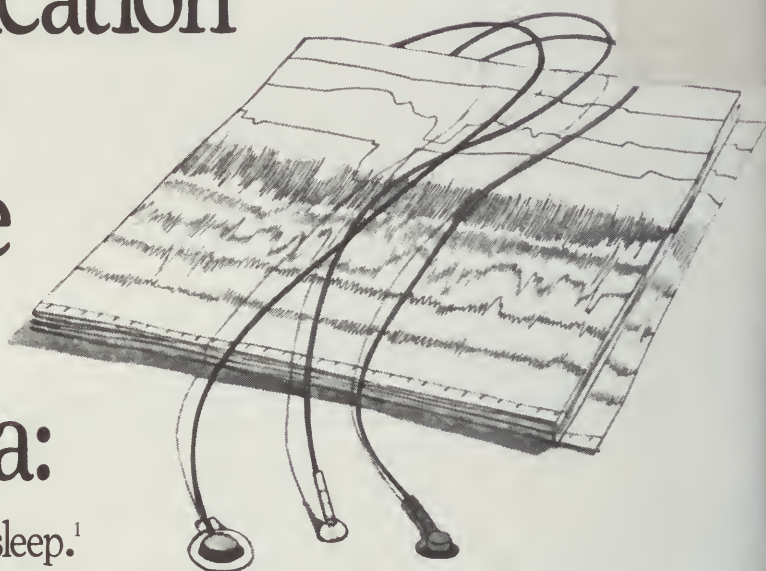
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- Seldom produces morning hangover.³
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flurazepam HCl/Roche

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Manati, Puerto Rico 00701

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Please see summary of product information on reverse side.

RH488

Rhode Island Medical Journal

June 1983

Volume 66, Number 6



**General William Whipple
(1730-85) — see page 243**

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An added complication... in the treatment of bacterial bronchitis*



Brief Summary. Consult the package literature for prescribing information.

Indications and Usage: Cefclor® (cefclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:
Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae* (*Diplococcus pneumoniae*), *Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci). Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Cefclor.
Contraindication: Cefclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES.

Antibiotics, including Cefclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics. Such colitis may range in severity from mild to life-threatening.

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis.

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone. In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation. When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile*. Other causes of colitis should be ruled out.

Precautions: *General Precautions*—If an allergic reaction to Cefclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of Cefclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics. In hemologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug.

Cefclor should be administered with caution in the presence of markedly impaired renal function. Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Cefclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinestix® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly). Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

Usage in Pregnancy—Pregnancy Category B—Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Cefclor. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers—Small amounts of Cefclor have been detected in mother's milk following administration of single 500-mg doses. Average levels were 0.16, 0.20, 0.21, and 0.16 mcg/ml at two, three, four, and five hours respectively. Trace amounts were detected at one

Some ampicillin-resistant strains of *Haemophilus influenzae*—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Cefclor.¹⁻⁶

In clinical trials, patients with bacterial bronchitis due to susceptible strains of *Streptococcus pneumoniae*, *H. influenzae*, *S. pyogenes* (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Cefclor.⁷

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hour. The effect on nursing infants is not known. Caution should be exercised when Cefclor® (cefclor, Lilly) is administered to a nursing woman.

Usage in Children—Safety and effectiveness of this product for use in infants less than one month of age have not been established.

Adverse Reactions: Adverse effects considered related to therapy with Cefclor are uncommon and are listed below.

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70).

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment. Nausea and vomiting have been reported rarely.

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthritis and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Cefclor. Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain—Transient abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic—Slight elevations of SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

[061782R]

*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.

Note: Cefclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

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Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285.
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June 1983

COUNCIL ADDRESSES MEDICAL NEEDS OF THE UNEMPLOYED

The Council recently took action to remind the Society's members that "many individuals and families suffer from economic hardship as the result of unemployment and the loss of health insurance benefits." More than 100 county and state medical societies throughout the country have established programs to make certain that the newly-unemployed receive adequate medical care. More about this matter appears on page 247 of this Journal.

In other actions at its April 11 meeting, the Council:

- authorized appointment of an ad hoc committee, chaired by Dr Seebert J. Goldowsky, to recommend the most appropriate and economical means of handling the Society's old records and archives.
- received a report from attorneys Charles E. Clapp and Patricia Zesk about the impact of a recent Federal Trade Commission ruling against the Michigan State Medical Society. The ruling prohibits professional associations from discussing fee-related issues with third-party carriers.
- met with Dr Alton M. Paul and Edward J. Lynch, President and Executive Vice-President respectively of Health Care Review, Inc. (formerly RIPSRO), to discuss the impact of the so-called Durenburger legislation on peer review activities. The law dismantled the professional standards review organization (PSRO) mechanism and replaced it with a system of "professional review organizations" (PROs). Health Care Review, Inc. has applied for designation as the PRO for Rhode Island.

Dr Paull and Mr Lynch noted that private employers have expressed an interest in peer review activities in an effort to reduce medical care costs. Large employers in other areas of the country have had private contracts for several years and Health Care Review, Inc. has started discussions with major employers in the state. More on PROs appears on page 227 of this Journal.

- approved the appointment of Drs Melvin D. Hoffman, Peter L. Mathieu, Jr., Charles E. Millard, and Charles P. Shoemaker, Jr. to the Board of Trustees of the Rhode Island Medical Society Foundation. Dr Kenneth E. Liffmann will serve as an ex-officio member with the power to vote. The Foundation was established in April 1983 to fund educational and scientific activities. Members' contributions to the Foundation are tax-deductible under the 1954 Internal Revenue Code.

The July issue of the Journal will feature a special report on the Foundation.

- recommended that the Statewide Health Coordinating Council (SHCC) focus its efforts on the following five priorities during the next year: school health education, health information for the general public, an analysis

of emergency room use, community mental health and substance abuse services, and a study of state support for medical education. The SHCC had asked the Society and other interested groups to select five priorities from a list of 42 potential activities.

In a related action, Drs Melvin D. Hoffman and Betty B. Mathieu testified on the importance of adequate health education in the public schools at the SHCC's May 5, 1983 public meeting.

BROWN UNIVERSITY RECEIVES AMA-ERF GRANT

Mrs Daniel Calenda, representing the American Medical Association Education and Research Foundation (AMA/ERF), presented the 1983 AMA/ERF check to Dr David Greer, Dean, Brown University Program in Medicine, at the Society's May 25, 1983 Annual Meeting.

Auxiliary units throughout the country raised more than \$1.5 million for the nation's medical schools in 1982. Amounts of the grants varied considerably, but virtually every medical school in the United States and most of the Canadian schools received some funds. Grants are made directly to medical school deans in the form of unrestricted funds, an especially welcome contribution since most donations to medical schools are earmarked for special programs.

BLUE RIBBON PANEL TO STUDY LONG-TERM CARE FOR THE ELDERLY

Governor J. Joseph Garrahy recently announced appointment of a 15-member "blue ribbon" panel to study the long-term health care needs of Rhode Island's geriatric citizens. The Commission will be headed by Dr Sidney Katz, associate dean of medicine of the Brown University Program in Medicine.

Three RIMS members, Drs Melvin D. Hoffman, Joseph E. Cannon, and Rajnikant K. Shah, will serve on the Commission which also has been charged with studying the roles of the state-operated General Hospital in Cranston and Zambarano Memorial Hospital in Burrillville.

MORE NURSING HOME BEDS AVAILABLE IN RHODE ISLAND

The Hospital Association of Rhode Island (HARI) recently reported that nursing home bed availability showed a 130 per cent increase in February over figures for December. The sharp rise, which appeared in the HARI-sponsored Pilot Voluntary Nursing Home Bed Information System, was attributed to the recent addition of 460 new nursing home beds.

Bay Tower Nursing Center, formerly the Rhode Island Nursing Care Center, a 160-bed Providence facility, was reopened, and the Coventry Health Center, which has 300 beds, opened in late 1982. In February, there were 1,270 available bed days compared to 553 in December.

BLUE CROSS/BLUE SHIELD OF RHODE ISLAND UNVEILS NEW PROGRAM

At a May 12 press conference, Governor Garrahy and Blue Cross/Blue Shield of Rhode Island announced a program designed to reduce the risk of adverse drug reactions.

Fifty thousand copies of a Blue Cross pamphlet, "Your Good Health Checkbook," will be distributed through the state's pharmacies. The 32-page booklet includes a section for recording all prescription and over-the-counter drugs used by the patient, including information on strength and dosage, length of use, and special directions from the physician. The "checkbook" was produced in cooperation with the Society, RI Department of Elderly Affairs, RI Pharmaceutical Association, RI Consumers Council, and RI Department of Health.

RETIREMENT WORKSHOP RECEIVES RAVE REVIEWS

Society members and their spouses rated an April seminar on retirement planning sponsored by the Society as "excellent." The one-day meeting, organized jointly by the Society and the AMA Department of Practice Management, featured presentations on the personal aspects of retirement, closing a medical practice, evaluating a practice for sale, Social Security benefits, estate considerations, and tax planning. Additional seminars on retirement and practice management issues will be held in 1984. Younger physicians, who do not contemplate retirement in the near future, have found past seminars helpful in their long-range planning.

NEGOTIATIONS SEMINAR SCHEDULED FOR JUNE 15

Physician Support Services, Inc., a Chicago-based consulting firm, will sponsor a seminar to help physicians negotiate more effectively with their hospitals on June 15, 1983, Quality Inn, Vernon, Connecticut. J. Paige Clousson, JD, former director of the now-disbanded AMA Department of Negotiations, will lead the meeting. It will focus on medical staff relationships, the development of bylaws, the credentials process, third-party relations, and the impact of diagnosis-related group (DRG) based reimbursement.

Registration materials are available from Physician Support Services, Inc., 39 South LaSalle Street, Suite 707, Chicago, Illinois 60603 (312/372-3320).

PERIPATETICS

Society members in the news include:

- Mendell Robinson, MD, recently received the 24th Annual Ben Fish Award for his "innovative techniques in microsurgery which have restored the gift of hearing to thousands of hearing-impaired patients." The award -- presented by the Rhode Island Department of Social and Rehabilitative Services -- is named in memory of a vocational rehabilitation counselor.
- New officers at Ocean State Master Health Plan, Inc. are: Toussaint A. Leclercq, MD, President; Robert D. Coli, MD, Vice-President; and Ronald Hillegass, MD, Secretary-Treasurer. Board members include: Robert Brochu, DO; Peter D.T. Clarisse, MD; Robert Conrad, MD; Faridoon Khan, MD; Robert Knisley, MD; and J. Brian May, MD.
- Paul Calabresi, MD, and Joseph E. Caruolo, MD, recently were honored by United Italians-Americans, Inc. for their outstanding contributions to medicine and public health.
- David Fortunato, MD, has been elected to fellowship in the American College of Cardiology.

- Pierre M. Galletti, MD, PhD, received an honorary degree from the University of Nancy, France, in late 1982.
- Edwin M. Gold, MD, received the 1982 Martha May Elliot Award from the American Public Health Association for development of a model ambulatory health care program at Women & Infants Hospital and establishment of criteria to evaluate maternity and newborn care.

Practice Management Question of the Month:

HOW DO I UPDATE MY BLUE SHIELD PROFILE?

Blue Cross/Blue Shield of Rhode Island periodically sends profile worksheets to all physicians with Blue Shield profiles whether or not they have signed formal participation agreements. The worksheet shows the physician's current Blue Shield reimbursement for each procedure code at the time of the last revision and provides space for updated charge information. You should follow this procedure in reviewing your profile worksheet:

- Compare the Blue Shield allowance for each procedure with your current actual charge. If your actual charge and the Blue Shield allowance are the same, your charge is either less than or the same as the Blue Shield reimbursement for physicians in your specialty and area performing the same service.

If the reimbursement paid by Blue Shield is less than your actual charge, your charges may be higher than the Blue Shield allowance or may not have been updated.

- Update your profile to include both your new actual charges and those which remain unchanged, particularly if the Blues' reimbursement is less than the unchanged charge.

The following situation may well occur if you do not update your profile. Our hypothetical Dr Jones charged \$15 for a routine hospital visit at a time when the Blue Shield allowance was \$10. He will continue to receive \$10 -- unless he updates his charges periodically -- even if the Blue Shield allowance increases to \$25 and his actual charge is listed as \$15.

- Return your profile to Blue Cross/Blue Shield via certified mail, return receipt requested, as soon as possible after receipt. Profiles must be received at the Blue Cross/Blue Shield offices by March 31 so that physicians' charges are accurately reflected in the rate proposal submitted to the Department of Business Regulation.
- If you do not receive an acknowledgment from Blue Shield within ten days, you should call the Office of Professional Relations (401/272-8500) to make certain that it has been received.

A copy of the Blue Cross/Blue Shield publication, How-To, is available upon request from the Office of Professional Relations, 444 Westminster Mall, Providence, Rhode Island 02901.

American Cancer Society Study

The Rhode Island Division of the American Cancer Society is participating in an epidemiologic cancer study using either identical or fraternal twins as a model. This will permit a study of possible environmental causes of cancer.

The University of Southern California (USC) is coordinating the study, which will focus on twin pairs in which one or both siblings have cancer. Because twins usually grow up in the same household and continue to maintain a close personal relationship throughout their lifetimes, it is easier to isolate divergent aspects of their life experiences.

If your practice reflects a twin experience as described above, please write or call:

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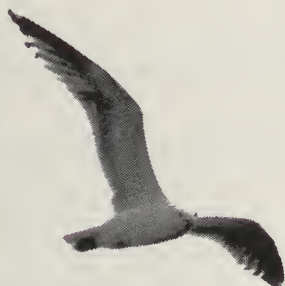
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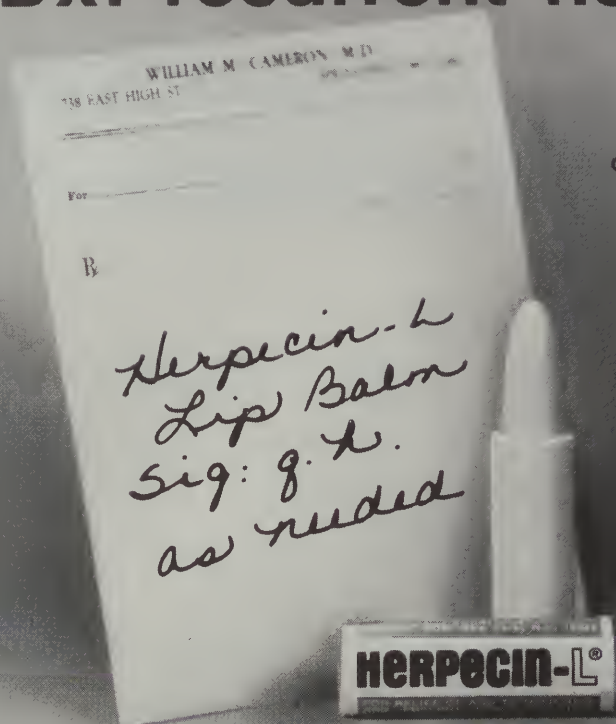
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THE EVALUATION TASK FORCE MEMBER serves as a member of a volunteer task force, charged with evaluating the management, planning and financial functions of an individual human service agency funded by the United Way.

FOR MORE INFORMATION ON THESE positions, contact Lois Turner at the United Way of Southeastern New England, 401-521-9000, ext. 29.



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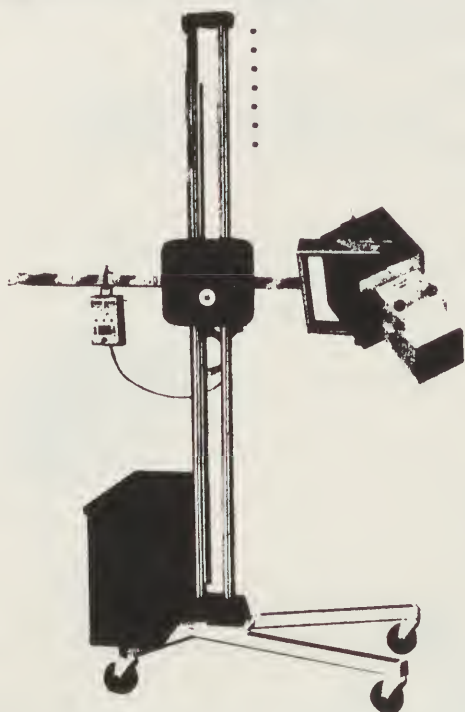
General William Whipple, by Ordering an Autopsy on His Own Remains, Provided for This Significant Medical Milestone

Elihu S. Wing, Jr., MD

COVER:

General William Whipple (1730-85). For more about General Whipple and the cause of his death, see page 243

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Peer Review: The Next Phase

Recent legislation, the Peer Review Improvement Act of 1982, has repealed the Professional Standards Review Organization (PSRO) program and replaced it with the Utilization and Quality Control Peer Review Organization (PRO). An analysis of the new law appears elsewhere in this issue of the *Journal*. In many respects, the PROs will be virtually identical to their predecessors although several significant differences should be emphasized.

First, PROs will have more power to focus their review activities. The purpose of PRO review is identical to that of a PSRO: to ensure that health care services are reasonable and medically necessary, meet professionally recognized standards of care, and are provided in the most economical setting. However, the law specifically authorizes PROs to determine the types and kinds of cases to be reviewed. As a result, they will be able to focus their review on particular problem areas.

Second, under the recently-enacted prospective payment system for Medicare, PROs are expected to emphasize pre-admission review of hospital admissions to ensure that hospitalization is necessary. It is likely that they will make certain that patients have been assigned to the appropriate diagnostic classification under the diagnosis-

related group (DRG) based reimbursement system. PROs also can be expected to review hospital discharge data rather closely since a decision to release a patient too early may prove costly to the Medicare program if the patient later is readmitted to the hospital.

Third, the legislation authorizes PROs to review the provision of services for Medicare patients in physicians' offices including on-site record review. The American Medical Association, which opposed the Peer Review Improvement Act of 1982, vigorously objected to this provision as an intrusion on physicians' practices.

Closer to home, RIPSRO has changed its name to Health Care Review, Inc. and has petitioned for designation as the PRO in Rhode Island. Under the new law, existing PSROs will continue to function until a PRO for the area is approved. However, the issue of what group is responsible for peer review is tangential to the central problem which plagued the growth of PSROs — cost versus quality. The two are not mutually exclusive, but physician support of the new program will be lukewarm at best if cost considerations are emphasized at the expense of quality medical care.

Seebert J. Goldowsky, MD

Medical Society Library

The Library of the Rhode Island Medical Society has a long and distinguished tradition of serving the information needs of both physicians and the general public which dates back to the establishment of the Society in 1812. Rhode Island is one of four state medical societies, including Texas, New York, and Maryland, which maintains its own library.

The growth of the Library was rather haphazard during the first 50 years of its existence. Although the Society's founders provided for the election of a librarian in its first slate of officers in 1812, this officer had no books to care for and no assigned duties. The position was quickly abolished. In 1824, Doctor Caleb Fiske donated the nucleus of a collection which was moved to Rhode

Island Hospital for safekeeping in the 1860s. The other volumes belonging to the Society were scattered throughout the state in the offices of various members. In 1878, the dispersed collection was consolidated at the headquarters of the Franklin Society on North Main Street, a Library Committee was appointed, and the Society formally committed itself to establishing a library. After available facilities at the Franklin Society were outgrown, the collection was moved to the Providence Public Library in 1900. In 1909, however, the public library in effect evicted its tenant, and the impetus to find a permanent home for the Medical Society library became urgent. The present facility, dedicated in 1912, now houses a collection of more than 50,000 volumes.

During the late 1800s and until the 1940s, the Library was the major source of medical information for Rhode Island physicians. Because of the comparatively small number of medical volumes published at the time and the leisurely pace of medical advances, it was fairly easy to maintain the "current state of the art" within the confines of one building. The Medical Society successfully continued this function until World War II. Its responsibilities to the Rhode Island medical community have since become more specialized as the result of two factors. First, hospital libraries developed at a rapid pace after the enactment of Hill-Burton legislation which required all hospitals to maintain libraries as a condition of receiving federal funds. Specialty boards also began to require hospital libraries for those facilities which sponsored training programs. As more physicians treated hospitalized patients, they needed immediate access to medical information in the hospital itself. Second, it became impossible for any one central library to maintain access to all current medical information because of the impact of subspecialization, the sheer volume of available information, and the expanding research base. For these reasons, the current collection at the Medical Society Library is designed to meet specialized needs.

The Library's journal collection is unique in two respects. First, the facility houses one of the few complete collection of state medical journals in the country. We currently receive more than 175 state and specialty society journals (many of them on an exchange basis with the *Rhode Island Medical Journal*) and attempt to balance the demand for current medical information with the need for historical material. Second, the Society maintains more than 500 titles of journals, annual reviews, and scientific proceedings, many of

which are out of print. Most of these titles are complete editions beginning with the first volume. Hospital libraries in the area rely on the Medical Society Library for its collection of rare journal titles and requests occasionally are received from further afield. We recently filled an order from the State V. I. Lenin Library of the USSR.

The Library also includes a diverse book collection. In addition to a general collection of medical textbooks, the Library includes the Davenport Collection, an eclectic grouping of novels, biographies, poetry, and art books written by and about physicians. Its titles range from the *Notebooks* of Leonardo Da Vinci to *Coma* by Robin Cook. The Helen DeJong Rare Book Room, named after the librarian who served the Society from 1930 to 1975, is a climate-controlled facility which houses a set of rare books and periodicals on the history of medicine.

The Library also includes the archives of the Rhode Island Medical Society, Providence Medical Association, and several other organizations. We also maintain a collection of medical instruments, photographs, autographs, and other items of historical interest.

The Library serves three separate groups: members, other institutions, and the general public. All members are granted full borrowing privileges, interlibrary loans, and institutional privileges. The Library also provides manual literature searches and can arrange for computerized bibliographic searches through the American Medical Association. We also are investigating possible linkages with the AMA/GTE computerized information system.

The Library also provides medical information to Rhode Island academic and medical institutions through interlibrary loans. As a member of the Association of Rhode Island Health Service Libraries, the Library responded to more than 850 requests for interlibrary loans from hospitals and other institutions in 1982. Much of this loaned material was sent indirectly to Society members through their affiliated hospital libraries.

One of the Library's unique services is as a source of medical information for the general public. The Library received approximately 20-25 telephone calls and two-three visitors daily. Most of these people are seeking information about physician referrals, definitions of medical terms, or research on a specific topic.

Lawrence Chionchio, MLS

PSRO Becomes PRO

The Peer Review Improvement Act of 1982, effective last September, repealed the Professional Standards Review Organization (PSRO) program and replaced it with the Utilization and Quality Control Peer Review Organization (PRO) program.

PSROs: An Overview

The PSRO program, included as part of the 1972 amendments to the Social Security Act (PL 92-603), was a product of the Senate Finance Committee. Specifically, the PSRO program was developed by Senator Wallace Bennett (R-UT), modeled on a previously established peer review program in Utah. PSRO was added to a House-passed bill and was adopted as part of a conference committee report by the House. The House Ways and Means Committee never held hearings on the legislation and it was generally considered a "Senate" program.

The stated purpose of the PSRO law was to "promote the effective, efficient, and economical delivery of health care services of proper quality for which payment may be made" under the Medicare, Medicaid, and Maternal and Child Health Care programs. The PSRO law authorized the Secretary to establish "appropriate" geographic areas in which PSROs could be designated and to enter into agreements with qualified organizations. Such contracts were to be for one year but could be terminated earlier if, after a formal hearing, the Secretary found that the PSRO did not substantially comply with or effectively carry out the provisions of the agreement. The PSRO also had the right to terminate the contract.

The law provided that, before January 1, 1976, the Secretary could contract only with a non-profit professional association composed of

physicians, the membership of which included a substantial proportion of all physicians practicing in the area. The regulations drafted to implement the law defined "substantial proportion" as at least 25 per cent of the physicians in the area. In addition, it was necessary that the organization be open to every physician whether or not he or she belonged to an organized medical group. The organization was required to be capable of performing the duties of a PSRO in an effective manner and at a reasonable cost.

Most PSROs delegated their review authority to hospital utilization review committees. Concurrent review (within three days of admission) was the principal means of review by PSROs. Usually, a nurse-coordinator initially reviewed a patient's chart against guidelines established by the PSRO. If the initial review raised questions, the case was referred to a physician for review. PSROs were also allowed to focus their review activities. In these situations, a PSRO could intensify review of admissions concerning a particular diagnosis, hospital, or physician.

If a PSRO initially denied a claim for services, payment to the provider was to be withheld. PSROs were allowed to utilize only the services of a physician to make a final determination about any act performed by a physician. A provider also was entitled to a reconsideration of an adverse determination. If the PSRO reaffirmed its determination and the amount in controversy was \$100 or more, the case could be appealed to a statewide Professional Standards Review Council. If the Council upheld the PSRO's decision, the provider could appeal to the Secretary, and if the amount in contention was more than \$1,000, judicial review could be sought. There was no statewide council in Rhode Island.

Effectiveness of PSROs

The effectiveness of the PSRO program was the subject of considerable dispute. Studies by the Health Care Financing Administration (HCFA) and the Congressional Budget Office (CBO), using identical data, reached different conclusions.

This analysis is based on information provided by the Department of Federal Legislation, Division of Legislative Activities, of the American Medical Association.

The CBO found that in 1977 the program saved about 30 per cent less than its costs and in 1978 about 10 per cent less. However, HCFA concluded that in 1977 PSROs saved the Medicare program \$5 million and in 1978 \$21 million more than the cost to administer the program. The HCFA analysis for 1979 also showed an average reduction of 1.5 per cent in the hospital days-of-care per 1,000 Medicare beneficiaries for 96 areas with active PSROs compared to the rate in 93 areas with inactive PSROs. An analysis by the General Accounting Office in 1980 concluded that 80 per cent of the difference in the cost-benefit ratios between the CBO and HCFA studies resulted from the fact that the CBO report measured savings as a reduction in total (Medicare and non-Medicare) expenditures while the HCFA report measured savings to the Medicare program only.

Reagan Administration Approach

In 1981, the Reagan Administration, primarily as the result of the CBO evaluation, recommended that federal funding of PSROs be phased out over a three-year period. During that time, only those PSROs found to be "cost-effective" would be funded. All federal support would stop at the end of fiscal year 1984. Both Senate and House committees held hearings on the Administration's proposal. The American Medical Association, testifying in support of the proposal, assured the committees that "in the absence of government direction and interference, the profession will vigorously renew and strengthen private sector peer review activities. . . ."

Other organizations also expressed their views. The American Association of Professional Standards Review Organizations (now the American Medical Peer Review Association) favored the development and application of criteria to evaluate the performance of PSROs. The Blue Cross Association supported the Administration's proposal to phase out PSROs and also advocated the implementation of an effective utilization review program administered by Medicare intermediaries. Both the Association of American Physicians and Surgeons and the Private Doctors of America favored the repeal of the PSRO program and a return to pre-PSRO utilization review. The Washington Business Group on Health advocated the development of criteria to evaluate PSRO performance and supported authorizing PSROs to become more involved in the establishment of pre-admission testing programs.

In addition to the Administration's plan to

phase out PSROs by the end of fiscal year 1984, a number of bills were introduced either to repeal or revamp the PSRO program. Senator David Durenberger (R-MN) introduced S 2142, "The Peer Review Improvement Act of 1982," which would repeal the PSRO program and replace it with a Utilization and Quality Control Peer Review Organization (PRO) program. The Senate Finance Committee attached the Durenberger bill to the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA), which Congress passed in August, 1982. President Reagan signed the bill last September.

Peer Review Improvement Act of 1982

The Peer Review Improvement Act of 1982 authorizes the Secretary of Health and Human Services to contract with PROs for the purpose of "promoting the effective, efficient, and economical delivery of health care services, and of promoting the quality of services" provided under the Medicare program. In addition, state Medicaid agencies may contract with PROs for utilization review and the federal government will pay 75 per cent of the administrative and review costs. It currently appears likely that Medicaid in Rhode Island will provide for its own review. While the law contains many provisions that are virtually identical to those in the PSRO law, several significant changes are mandated:

Area designation — The Secretary must consolidate the geographic areas established for PSROs. Generally, each state will be designated as a geographic area for a PRO. A state with fewer than 180,000 hospital admissions annually, including both public and private patients, must be a single statewide PRO area. It appears that Rhode Island is eligible for designation as a PRO area. Existing PSROs will continue to operate until the Secretary enters into a contract with a PRO for their review area. Contracts with existing PSROs may be renewed for periods of less than twelve months.

PRO organization — To be designated as a PRO, an organization must be composed of a substantial number of physicians practicing in that area or must have available to it the services of a sufficient number of physicians to assure adequate peer review. Nevertheless, if the Secretary is unable to find any organization which meets these criteria, he or she may enter into a contract with any other organization capable of performing peer review functions. During the first year in

(Continued on page 236)



Some Thoughts on Leaving Office

As my term of office draws to a close, I am aware of several troublesome issues which will, I suspect, continue to be with us for some time. What follows is a personal perspective on three of these problems.

Physicians and Their Hospitals

Recently a discussion was sponsored by a county medical society on the development of a hospital-community based ambulatory center. The speakers advanced reasons why ambulatory care should be based largely at the hospital. First, many patients are outside the mainstream of office-based care: the poor, those with multiple medical-social problems, and difficult disruptive patients. Second, medical students and house officers must gain experience in treating ambulatory patients. Third, hospitals have an historic obligation to provide health care for unserved segments of our population. These goals are laudable, and one can find little fault with them.

Traditionally, these needs were met by a voluntary partnership of physicians and hospitals, a system which became unworkable because of the impact of Medicare and Medicaid, and the availability of first-dollar insurance coverage. Our social philosophy changed, and the public perceived health care as an inalienable right. Public clients were viewed as cold, impersonal, and inferior. Most other public services for this population were similarly cold, impersonal, and inferior, but were "suitable." Doctors were blamed for apparent deficiencies in health care services.

A burgeoning social welfare system and other mechanisms stimulated by the "Great Society" were created to improve this situation. After three decades of expansion, however, the cost of these reforms has become intolerable. As the result of public concern, the government and third-party payers have proposed various methods of controlling medical costs, including lower insurance benefits, reduced payments to hospitals and physicians, and other devices which may be char-



Melvin D. Hoffman, MD

acterized as "creative financing." Doctors now are accused of profiting from some of these schemes.

Hospital administrators have found increased leverage in controlling costs by placing physicians on salaries. The presence of salaried physicians increases the public's perception of the hospital as the principal source of health care. For the physicians involved, the salaries are often substantial, the financial and administrative management is solid, and various other "perks" make the job attractive. Office-based medical care also has changed through the adoption of analogous methods. The "cottage industry" approach to health care delivery (fee-for-service solo practice) is on the decline. Groups of physicians, ranging in size from partnerships of a few physicians to large multispecialty organizations with several hundred employees, are evolving. Self-contained systems of physicians, hospitals, laboratories, and pharmacies, such as Kaiser Permanente, have emerged. Health maintenance organizations (HMOs) have received federal support. Preferred Provider Organizations (PPOs), where

groups of physicians contract with private employers to provide health care at reduced rates, are becoming more prevalent.

The potential for conflicts is enormous. Physicians may well develop adversarial relationships with their hospitals. Both the government and hospitals confront each other on the one hand with mandated responsibilities and on the other with reduced financial support. Physicians are involved because of the threat to quality of care. Private third-party payers are drawn into the fray because they are under pressure to maintain affordable premiums.

There is no easy solution and no readily-identifiable villains in this scenario. A negotiated solution becomes possible only if we recognize that problem solving requires communication and understanding among the involved parties. Physicians individually cannot deal effectively with hospitals; a collective approach is necessary. A staff association or some other vehicle could function as the physician's representative. The group's legal status and potential antitrust considerations need to be addressed. The Society can help physician groups through its liaison activities with the Hospital Association of Rhode Island, health insurers, Medicare, and Medicaid. The Society, because it represents the viewpoints of numerous physicians, is in a unique position to study problems objectively, recommend policies, and offer its services in a negotiation process. I believe that action plans should be developed to address this imminent problem.

Physicians and Consumers

The physician has long served as the patient's advocate. Because of the increasing complexity of medicine, many others—including nurses, social workers, and hospital administrators—now claim this function. Further changes are on the horizon with an oversupply of physicians, continued technological advances, extended life expectancy, and the changing economics of medical care. Patients and consumer groups are becoming more vocal and better organized. They want changes in the health care delivery system to answer their perceived needs more effectively.

I believe that a dialogue with these groups is essential. We physicians cannot be so certain of ourselves that we are reluctant to change. Above all, we must not see consumer advocacy as an irritating intrusion into our daily activities. We must hear their voices, consider their requests, implement changes where appropriate, and con-

tinue to meet. Physicians and their patients must educate each other. A partnership with our patients may well strengthen the bonds between us and result in better methods of delivering medical care.

The AMA already has started liaison with patient and business groups as part of its Health Care Agenda for the American People and also sponsors various educational programs. The Society can address the issue on a local basis and help with these national objectives.

Physicians and Peer Review

The national concern with health care costs corresponds to an increased demand for physician accountability. Hardly a legislative session, either state or federal, passes without proposals to increase the accountability of physicians to the public.

The Society maintains active committees on mediation, ethics, and impaired physicians to handle public and professional concerns about doctors. These committees function well because of their voluntary nature. The Society also supports the activities of the Board of Medical Review.

The Society's Public Laws Committee closely scrutinizes all legislative proposals on peer review. Responsible testimony and our willingness to address these problems voluntarily have forestalled the imposition of mandatory peer review requirements. We have been successful primarily because of our willingness to solve problems of physician accountability on a voluntary basis. As the result of requirements of the Joint Commission on the Accreditation of Hospitals, hospitals also have developed numerous internal peer review mechanisms.

As far as is possible, peer review should be developed and operated by physicians. To maintain this position, voluntary committees must act firmly and responsibly in protecting the interests of the public and physicians. The alternative to a system of voluntary peer review is a mandatory form of physician discipline in the public arena.

Of course, there are other concerns about our future which we all share. More than ever, the Society is in a strong position to serve as your advocate. We must continue to persuade our colleagues to participate. We must encourage all groups of physicians to join both the Society and the AMA to strengthen our voice and increase our ability to act. We must not lose this opportunity to influence the future.

Hypopituitarism with Normal Skull Film and Pituitary Tumor

Microsurgery by the Transsphenoidal Approach Was Successful in the Management of a Prolactinoma

C. P. Pagonis, MD
T. A. Leclercq, MD
S. R. Allegra, MD

Pituitary tumors comprise about ten per cent of all intracranial tumors,¹ and the chromophobe adenomas, two-thirds of which are prolactin secreting, are the most common form of pituitary tumor.² This is the report of a case with a two-year follow-up of an adult male with anterior hypopituitarism treated by transsphenoidal resection of a pituitary adenoma.

Case Report

A thirty-eight year old white male presented with progressively worsening fatigue, decreased libido, and bilateral carpal tunnel syndrome. The physical examination revealed a pale, moderately obese patient with normal visual fields, decreased deep tendon reflexes, slightly decreased testicular size and mild orthostatic hypotension. The following laboratory studies were all normal: SMA-12, complete blood count, LE cell preparation, thyroid stimulating hormone, follicle stimulating hormone, luteinizing hormone, 24-hour urine 17-hydroxycorticosteroids, and adrenocorticotrophic hormone.

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The following tests were abnormal: T₃ 34.7 (normal 35-45), T₄ 4.1 (normal 11.5-14.5), free thyroxine index 1.43 (normal 1.58-5.18), radioactive iodine uptake 20 per cent, nerve conduction velocity consistent with bilateral carpal tunnel syndrome, afternoon cortisol 1.8 (normal 2-9), morning cortisol 4 (normal 5-25), 24-hour urine 17-ketosteroids 7 (normal 8-25), and serum testosterone 275 (normal 300-1,000). Skull x-ray studies with tomography of the sella and brain scan were negative (Fig 1). The diagnosis of idiopathic hypopituitarism was considered together with the possibility of anterior pituitary lobe necrosis secondary to early diabetic-induced cerebral atherosclerosis.³⁻⁵

The patient was placed on hormonal replacement therapy; cortisone acetate 10 mg daily, Synthroid® 0.05 mg daily, and intramuscular testosterone 200 mg every three weeks. The clinical response was gratifying and rapid. The patient returned to work and resumed full physical activities. Twenty months later the patient presented with bitemporal quadrantanopsia. A CT scan revealed a pituitary tumor with significant suprasellar extension (Fig. 2). Because of the presence of visual field defects, the patient was immediately scheduled for surgery. The tumor was entirely removed using the transsphenoidal approach. The sella turcica and the suprasellar cistern were observed to be filled with bluish-gray tumor, which was partially necrotic and thought to be typical of pituitary adenoma. Normal gland was identified. There were no post-operative complications and the patient was discharged on the fifth post-operative day. Recovery was rapid,

and at two year follow-up the CT scan has remained within normal limits.

Pathological Findings

Light microscopy: The adenoma was rather uniform in structure and architecture. The tumor cells, chromophobe or only faintly acidophilic,

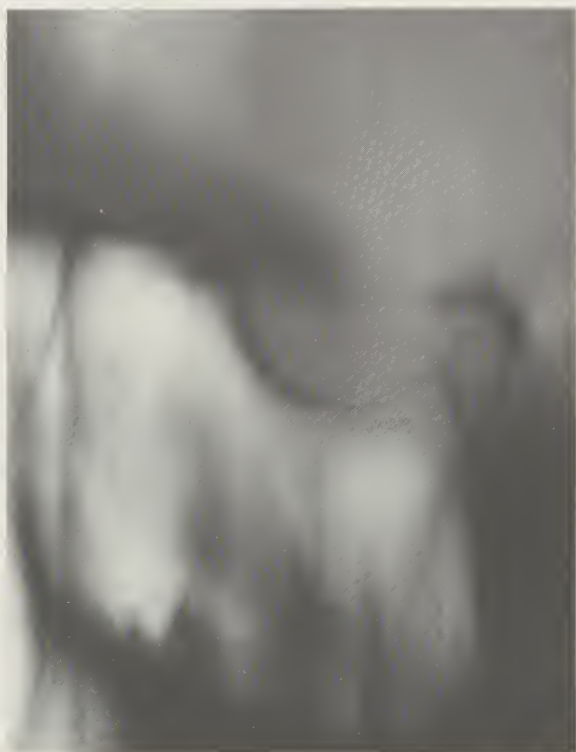


Figure 1. Tomography of the sella showing no enlargement at the time of early diagnosis of hypopituitarism.

displayed a certain variation in cytoplasmic composition ranging from finely granular to microvacuolated. The nuclei were ovoid or round with condensation of the nuclear chromatin and moderately prominent nucleoli. Occasional mitotic figures were encountered in various areas. The tumor appeared to be surrounded by a fibrous capsule.

A major portion of the tumor, when tested with the peroxidase-antiperoxidase method, revealed a positive stain for prolactin (Fig 3).⁶

Electron Microscopy: The tumor cells displayed the classical appearance of a prolactinoma (Fig. 4). The nuclei were irregularly profiled and heterochromatinic. There were abundant nuclear pores. Nucleoli were inconspicuous. The cytoplasm of the tumor cells displayed prominent Golgi areas with the crescent or C-shaped arrangement typically described in prolactin secreting cells.⁷ Misplaced exocytosis was frequently observed. Many degranulated cells cor-

responding to the microvacuolized elements seen at light microscopy were also noted. These cells were indicative of high functional activity as the empty spaces seen in the cytoplasm, representing areas from which secretory granules of prolactin were previously massively released.

Discussion

Pituitary tumors may present with local symptoms such as bitemporal hemianopsia in as many as 40 per cent of patients.⁸ The result of tumor extension toward the optic chiasma, bitemporal hemianopsia is of the greatest localizing value.⁸ Headaches and endocrine symptoms are seen in more than 50 per cent of patients.⁸ Electron microscopy techniques have recently replaced the older classification of pituitary tumors on the basis of light microscopic staining characteristics.

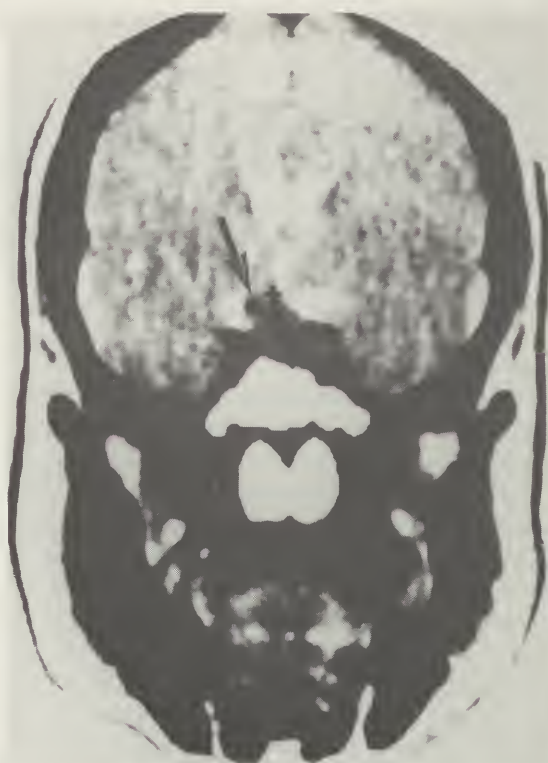


Figure 2. CT scan with contrast showing pituitary tumor with suprasellar extension prior to transsphenoidal removal. Arrow points to suprasellar extension.

As a result, it now has been ascertained that as many as 80 per cent of these tumors are prolactin secreting.² Staining with the peroxidase-antiperoxidase method now allows a determination of the type of secretion present in the cells.⁶

X-ray studies of the skull, and particularly polytomography of the sella, have been particularly useful in diagnosing pituitary tumors and assessing the extent of the lesion. The sella is

enlarged in most cases involving large pituitary tumors with associated hypopituitarism. Our case is unusual in that polytomography revealed normal sella measurements. As a result, the diagnosis of pituitary tumor was delayed.

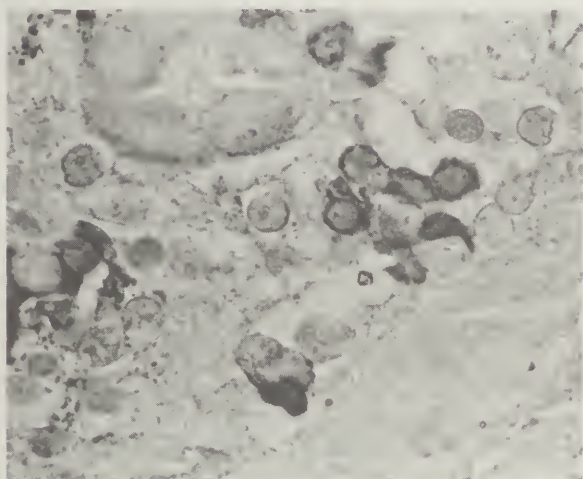


Figure 3. Peroxidase-antiperoxidase stain for prolactin; prolactin stain is seen in all cells of this field. Staining, however, is less intense in the finely vacuolized cells. Magnification $\times 95$.

The transsphenoidal selective microsurgical technique appears to be the most efficacious means of therapy.¹⁰ The experience with pituitary tumor microresections of C. B. Wilson and J. B. Tyrell favors this technique even in tumors with sphenoidal or suprasellar extensions.^{11, 12} However, marked expansion of the sella, suprasellar extension, dural erosion with sphenoidal extension, or invasion of the cavernous sinus and orbit yield poor surgical results.¹¹ Radiotherapy also seems to be effective in reducing tumor size and prolactin levels but at a less rapid rate.²

Bromocriptine therapy is now being used in treating prolactinomas. F. Wollesen observed 99 per cent tumor size reduction in microprolactinomas and more than 50 per cent reduction in macroprolactinomas, as assessed by CT scanning.¹³ Similarly, B. Corenblum reported significant tumor size reduction in eight microprolactinomas with suprasellar extension. In

such patients bromocriptine should be considered as the initial treatment.¹⁴ Because of its rapid effect, bromocriptine may obviate the necessity of acute neurosurgical intervention in prolactinoma patients.¹⁵

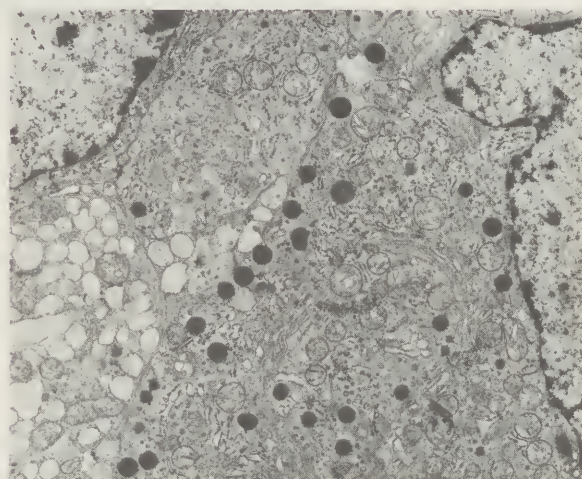


Figure 4. Electron Microscopy. Representative field of the tumor reveals 300 nm prolactin granules at the periphery of the cell on the right field of the electron micrograph. Some granules protrude into the intercellular space (misplaced exocytosis). The typical C-shaped Golgi apparatus of prolactin secreting cells is well-demonstrated. The cell of the left field displays degranulation (only the empty shells of the prolactin granules remain visible). Magnification $\times 20,250$.

Conclusion

1. Negative skull x-ray studies and tomography of the sella do not rule out the presence of a pituitary tumor. A CT scan should be performed early on a patient suspected of having a pituitary insufficiency, and, if negative, repeated at frequent intervals.
2. Microresection of pituitary prolactinoma appears to be the most effective treatment at the present time.
3. Following transsphenoidal microsurgery, patients are best followed by prolactin level assay. If prolactin levels are elevated, a CT scan should then be performed to determine early recurrence.

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PSRO Becomes PRO

(Continued from page 230)

which the Secretary considers contract applications, health insurance companies, prepaid health plans, and health care facilities and their associations cannot be designated as PROs. After the initial year, the Secretary may enter into a contract with such an organization only if there is no other group in the area. If more than one qualified organization seeks a contract, however, the group representing practicing physicians must receive priority.

Contracts — Contracts with PROs will be for an initial term of two years and will be renewable on a biennial basis. They must include negotiated objectives against which the organization's performance will be judged and negotiated specifications for the use of regional norms or modifications, based on national norms. The norms must recognize different, but acceptable, modes of treatment. The PRO may terminate the contract upon 90 days' notice to the Secretary. The Secretary may terminate a contract with a PRO upon 90 days' notice if the PRO has substantially failed to fulfill its contract obligations. In addition, a PRO may have its contract terminated if it has failed to perform in an efficient and effective manner.

AMA Objections

The AMA opposed passage of the PRO law because it retained many of the objectionable provisions of the PSRO law. The AMA objected to the mandatory nature of the program demonstrated by the contract requirements and the provision requiring PROs to perform the review functions specified in the law. The AMA also was con-

cerned about the potential control by the Secretary over a PRO in view of his or her broad discretion not to enter into contracts and to terminate contracts. The AMA also believed *that authorizing PROs to review the provision of medical services in physicians' offices, inspect physicians' offices, review physicians' records, and review services before they are performed could result in an improper intrusion into physicians' practices and the physician-patient relationship.* Finally, the AMA was concerned that peer review could be performed by a non-physician organization, thus increasing the potential for the program to focus on cost over quality.

The Future of PROs

Under the recently-enacted prospective payment system for Medicare, PROs may emphasize pre-admission review of hospital admissions to ensure that hospitalization is necessary. PROs could function to determine the proper patient classification under the diagnosis-related group (DRG) reimbursement system. In addition, PROs could closely scrutinize discharge data to ensure that patients are not prematurely released, since a decision to release a person too quickly could prove costly to Medicare if the patient later is readmitted to the hospital.

The key question concerning the future of the PRO program is whether PROs will emphasize the assurance of high quality medical care or the controlling of costs. If PROs emphasize cost control over quality, the PRO program — like the PSRO program — will lose the conditional support of the medical profession.

Case Record: Rhode Island Hospital

Maurice M. Albala, MD
Thomas Wachtel, MD
George Meissner, MD
David Williams, MD, Editors

Presentation of Case

A 71-year-old white male, retired truck driver, with chronic lymphocytic leukemia (CLL) and chronic obstructive pulmonary disease, was hospitalized because of profound weakness, dyspnea, and fever of four days duration.

Two years earlier, the patient had presented with a 30 lb (13.6 kg) weight loss, axillary and inguinal lymphadenopathy, anemia (Hb 5.0), thrombocytopenia (72,000), and lymphocytosis (white blood count 34,800 with 92 per cent lymphocytes). Bone marrow biopsy confirmed chronic lymphocytic leukemia. The patient received multiple blood transfusions, chlorambucil, and intermittent high doses of prednisone. The patient complained of persistent exertional dyspnea and easy fatigability, and remained anemic.

Twelve months prior to his final admission, the patient was admitted with a fever, weight loss, and a white blood count of 4,200 (37 per cent lymphocytes and 62 per cent polymorphonuclear leucocytes). There was no evidence of sepsis. Liver biopsy revealed moderate fatty metamorphosis and moderately prominent lymphocytic infiltrates of the portal triads consistent with CLL. Bone marrow biopsy showed focal lymphocytic infiltration. The patient was assessed to have active CLL despite a paucity of clinical findings and the absence of lymphocytosis. A five-day course of prednisone (60 mg daily) and a single dose of vincristine (2 mg intravenously) was given before discharge.

Four months prior to his final admission, the patient was again admitted with a fever of 105°F (40.5°C), cough, dyspnea, and lethargy. Physical examination was unremarkable. Chest x-ray films showed hyperinflation of both lungs. Blood, urine, and cerebrospinal fluid (CSF) cul-

tures were sterile. Sputum cultures grew out *Hemophilus influenzae*. The patient improved with oxygen, aminophylline, and cefamandole, and was discharged.

The present admission occurred six weeks following a course of chlorambucil 4 mg and prednisone 50 mg daily for five days. The patient had been in his usual state of health until four days prior to admission when he became febrile and was noted to hallucinate intermittently. Oral intake was minimal. On the day of admission, the patient noted profound weakness. He denied rigors, headache, visual changes, sore throat, cough, sputum production, stiff neck, abdominal pain, nausea, vomiting, or change in bowel or bladder habits.

The patient had smoked two packages of cigarettes daily for 50 years and consumed three to four beers a day. Outpatient medications included digoxin, theophylline, metaproterenol inhalations, and diazepam.

Physical examination revealed an elderly male in no acute distress. Temperature was 104.4°F (40.7°C), blood pressure 120/60, pulse 130, and respirations 26. His neck was supple. Examination of the lungs revealed diminished breath sounds, but no rales or wheezes. There were no murmurs or gallop rhythm. The abdomen was not tender with normoactive bowel sounds. The liver was slightly enlarged. Rectal examination was refused. The lower extremities were cool with 1+ pitting edema. The skin had no rashes. Neurological examination was normal.

Laboratory data included Na 135, K 4.8, Cl 97, and total CO₂ 31 mEq/L. Blood urea nitrogen was 22, creatinine 1.3, and glucose 86 mg/dl. Hemoglobin was 11.3 g per cent, hematocrit 35.3 per

cent, and mean corpuscular volume 107. White blood count was 6,700 with 37 per cent polymorphonuclear cells, 3 per cent bandforms, and 60 per cent lymphocytes. Toxic granulations and Dohle bodies were present. Prothrombin activity was greater than 100 per cent. Urinalysis: specific gravity 1.019, pH 8, negative protein glucose ketones, 6-10 red blood cells, and 21-50 white blood cells. Urine gram stain: 2+ white blood cells, 1+ g negative rods. Serum glutamic oxalacetic transaminase was 27, lactic dehydrogenase 471, and alkaline phosphatase 8.5 IU/dl. Total bilirubin was 0.4, Ca 7.8, K 3.2, uric acid 9.1, and T₄ 4.8 mg per cent. Magnesium was 1.4 mEq/L. Total protein was 4.5, albumin 2.7 g per cent. T₃ resin uptake was 33.6 per cent and thyroid stimulating hormone 1.0 mcU/ml. Theophylline blood level was 14 mcg/ml and Westergren sedimentation rate 64. Serum protein electrophoresis revealed an increased alpha-2 fraction and beta-gamma bridging. IgG 455 mg/dl (639 = low normal); IgA 60 mg/dl (70 = low normal).

Lumbar puncture revealed an opening pressure of 200 mm H₂O and a closing pressure of 96 mm. Cerebrospinal fluid (CSF) was clear and contained no RBCs, 718 WBCs (96 per cent polymorphonuclear leucocytes, 2 per cent basophils, 1 per cent lymphocytes, and 1 per cent monocytes) in tube No 1 and 1 RBC and 994 WBCs in tube No 4. CSF protein was 63 mg/dl, glucose 29 mg/dl, and lactate 4.7 mEq/L. Gram stain showed 3+ polymorphonuclear leucocytes and no organisms. Cryptococcal antigen, India ink preparation, acid fast bacillus smear, and counter-current immunoelectrophoresis for bacteria were negative. Chest x-ray films and EKG were unremarkable.

Carbenicillin (5 g every four hours) and gentamicin (120 mg, then 60 mg every 8 hours) were administered. After 72 hours, blood cultures, urine and CSF cultures showed no growth, and antibiotics were discontinued. The patient remained febrile to 102°F (39.0°C), but was more alert.

On the third day, the patient complained of lower back discomfort and difficulty voiding. A catheterized urine specimen grew no organisms.

On the fifth day, the patient was more confused and unable to lift either leg off the bed. His spine was diffusely tender. Deep tendon reflexes were diminished. Rectal sphincter tone was

absent as was sensation to pain although no sensory level was identified. Decadron administration was started. A lumbar spine x-ray series showed only mild osteoporosis. Cervical to lumbar myelogram was normal. Bone scan was normal. Repeat bone marrow biopsy showed no histological change in CLL, and AFB smear was negative.

On the eighth day, the patient became less responsive and began to produce copious amounts of white sputum. The temperature was 99°F (37.6°C). Physical examination remained unchanged except for a new left facial and left upper extremity paresis. Chest x-ray study now showed a density in the left base. Cranial CT scan with contrast showed mild prominence of the ventricular system (left greater than right). There was no midline shift, no area of hemorrhage, and no space-occupying lesion. The electroencephalogram (EEG) was nonspecifically abnormal.

Repeat lumbar puncture revealed an opening pressure of 235 mm H₂O. CSF contained 740 WBC and 33 RBCs in tube No 1. Glucose was 37 (serum glucose 124) and protein 78. Gram stain showed 2+ WBCs and no organisms. AFB smear and culture were negative. Cell block showed clumps of neutrophils. Cytology was inconclusive. India ink smear was negative, but cryptococcal antigen was positive at 1:1 dilution.

Decadron was discontinued while administration of amphotericin B (15 mg daily) and 5 flucytosine (2 g every 6 hours) was started.

On the ninth hospital day, the patient suffered a respiratory arrest, was intubated and transferred to the medical intensive care unit. The patient remained respirator-dependent and developed transient complete heart block necessitating temporary pacemaker placement. An upper gastrointestinal hemorrhage was managed with transfusions, cimetidine, and antacids.

The patient became progressively hypotensive and died on the 13th hospital day.

Differential Diagnosis

Penelope H. Dennehy, MD*: The patient, an elderly gentleman with chronic lymphocytic leukemia of two years duration, presented with fever, central nervous system symptoms, and a new pulmonary infiltrate. First, let us discuss the patient's degree of immunosuppression since this plays a role in the possible etiology of his symptoms. Chronic lymphocytic leukemia has been described as an "accumulative disease of immunologically incompetent lymphocytes."¹ The

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defect is primarily in production of abnormal B lymphocytes with concomitant decrease in humoral antibody production and resultant hypogammaglobulinemia.²⁻⁴ These patients are commonly treated, as was this man, with prednisone and cytotoxic agents. Steroid therapy further impairs the immune system by inducing abnormal granulocyte adherence, phagocytosis, and abnormal cell-mediated immunity.⁶ This patient had been treated six weeks previously with chlorambucil, an alkylating agent of the nitrogen mustard type. This drug can lead to bone marrow suppression and neutropenia, but this usually occurs within two weeks after administration.⁷ This patient had an adequate number of circulating neutrophils, but their function may have been impaired by steroid therapy or by his underlying disease.⁸

Let us now discuss the patient's course looking for clues to the cause of his demise. The patient initially presented with weakness, dyspnea, and fever. His physical examination revealed no localizing findings, and his laboratory studies demonstrated adequate circulating white blood cells and some gram negative rods in his urine and pyuria. In addition, a spinal tap was done which revealed elevated pressure, white blood cell pleocytosis with a polymorphonuclear predominance, increased protein, decreased sugar, and a gram stain showing no organisms. The patient was appropriately treated with broad spectrum antibiotics awaiting culture results. All cultures were negative, but the patient continued to be febrile and began to develop symptoms suggestive of local spinal disease. Workup for spinal epidural abscess and osteomyelitis were unrevealing. Several days later the patient developed new findings suggestive of localized right cerebral cortical involvement. He also began producing sputum and had a new infiltrate at the left base on chest x-ray study. A CT scan was obtained searching for a localizing process, but was not helpful. Repeat lumbar puncture was similar to the first with the exception of a positive cryptococcal antigen at a 1:1 dilution. The patient was given antifungal therapy, but died several days later with transient heart block, an upper gastrointestinal bleeding episode, and progressive hypotension.

Infection remains the major cause of death in cancer patients, and I feel it was responsible for the death of this patient.⁹ Chronic lymphocytic leukemia is a rare cause of fever alone, and fever combined with the change in mental status seen in the patient is suggestive of infection rather than underlying disease.^{10, 11}

What infections can cause a constellation of central nervous system (CNS) infection and pulmonary infection in the compromised host?¹²⁻¹⁴

Bacterial infections which could cause this symptom complex include *Pseudomonas*, gram negative enteric rods, *Listeria*, *Legionella*, tuberculosis, and *Nocardia*. *Pseudomonas*, gram negative rods, and *Listeria* seem highly unlikely in view of the negative cultures. Tuberculosis was searched for with repeated AFB smears on CSF and bone marrow. CSF findings are consistent with tuberculosis meningitis; however, the course tends to be more subacute. Also, tuberculosis does not usually cause localized central nervous system findings such as those seen in the patient.¹⁵ *Legionella* causes central nervous system disturbances and rarely encephalitis, but CSF findings in patients with *Legionella* are usually unremarkable.^{16, 17} *Nocardia*, among the bacteria, is the organism which fits the patient's presentation most closely. *Nocardia* usually invades through the respiratory tract and disseminates hematogenously from there to the brain. It tends to cause abscesses which may be multiple. Meningitis is rare, but can occur with rupture of an abscess into the meningeal space.¹⁸ This organism is most common in hosts with defects in cell-mediated immunity.¹⁹

Fungi are the most common organisms causing fatal central nervous system infection in the compromised host.²⁰ *Cryptococcus* is the most common fungal CNS pathogen in patients with CLL.²¹ It is acquired through the respiratory tract and disseminates primarily to the meninges. It causes meningitis which is often chronic. Focal central nervous system findings are present in approximately 10 per cent of patients and are the result of granulomas or cerebral masses of cryptococci. Diagnosis is made by either culture, positive India ink preparation, which occurs in approximately 50 per cent of cases, or positive cryptococcal antigen of greater than 1:4. I think the positive cryptococcal antigen in the patient was a "red herring" as a positive at 1:1 is less than diagnostic.

Coccidiomycosis and histoplasmosis can be dismissed, the former because of lack of travel history, and the latter because of the rarity of CNS histoplasmosis.²²

Candida can present as disseminated disease with microabscesses in brain, lung, heart, liver, and kidneys; however, meningitis is rare.²³ Candidiasis is difficult to diagnose. The patient had none of the clinical indications of disseminated candidiasis including papular skin lesions, en-

dophthalmitis, or candiduria (significant only in the absence of indwelling urinary catheters).^{24, 25}

The Mucorales including *Mucor*, *Rhizopus*, and *Absidia* can cause central nervous system disease and can disseminate from respiratory tract to CNS. Most commonly they are seen in the rhinocerebral syndrome associated with diabetes and are unlikely in this case.²⁶

Aspergillus is another ubiquitous fungus which causes widely disseminated disease.²⁷ Its usual portal of entry is the respiratory tract with hematogenous dissemination being the most common

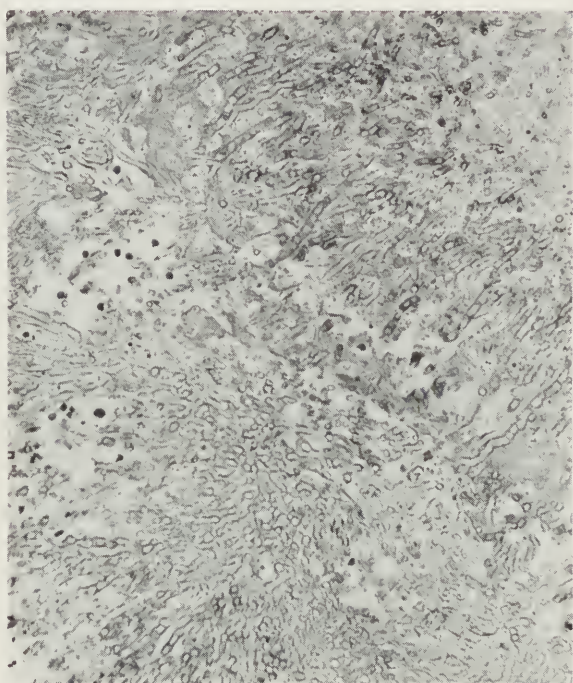


Fig 1 Section of mitral valve vegetation showing hyphae of aspergillus.

mode of spread. This organism invades vasculature resulting in infarction. It can cause single or multiple brain abscesses and also meningitis in 30 per cent of patients who present with moderate CSF pleocytosis.²⁸ The patient's course is quite consistent with this infection with the exception that he had adequate numbers of neutrophils. However, steroid therapy predisposes to fungal opportunists as seen in the renal transplant experience.²⁹ Multiple infarctions caused by hematogenously carried *Aspergillus* would explain his multiple neurologic defects.

Parasitic and viral diseases should be briefly mentioned. Toxoplasmosis can cause central nervous system disease. Reactivation of encysted organisms with immunosuppression results in either brain abscess or encephalitis. Meningeal reaction usually consists mostly of mononuclear

cells with a normal glucose and protein.³⁰ *Strongyloides*, a helminth infection seen primarily in the Southeastern and South Central United States, can cause central nervous system disease as well. The patient may have acquired his worm burden many years before with organisms migrating from the lungs to the gastrointestinal tract at the time of the initial infection and persisting in the gastrointestinal tract for many years thereafter. At the time of immunosuppression a hyperinfection occurs with the resulting meningoencephalitis.³¹ This patient is unlikely to have *Strongyloides* as he has a negative travel history and never lived in areas of endemic infection.

Among the viruses, two could cause central nervous system infections such as that seen in the patient. The first is varicella-zoster virus. However, infection with this virus seems unlikely, as most of the patients tend to present with skin lesions as well as visceral dissemination.³² The

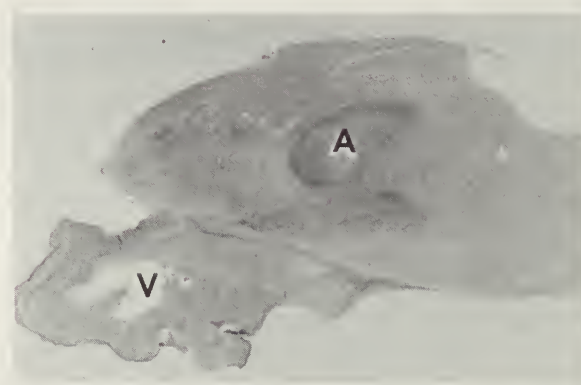


Fig 2 Inset shows the section of heart with myocardial abscess (A) and vegetation (V).

other virus which commonly causes central nervous system disease is herpes simplex virus. Herpes simplex encephalitis in the immunocompromised host can be dissimilar to that seen in the normal host. In the normal host, infection usually involves the temporal lobe area with localizing symptoms to that area. In the compromised host the infection is often less localized, and more indolent.^{33, 34} The patient presented with findings of acute meningitis and had a rapidly downhill course. This combined with involvement of the spinal cord and the cerebral cortical areas make herpes simplex virus unlikely as an etiologic agent.

In summary, I feel the patient presented with a fungal infection, the two most likely candidates being *Candida* and *Aspergillus*. *Candida meningitis* is relatively rare, therefore, *Aspergillus*

seems to better fit this patient's presentation. In view of the multiple central nervous system defects which are consistent with infarction, I feel the patient had disseminated aspergillosis involving the central nervous system and probably his lungs as well.

Clinical Diagnosis

Chronic lymphocytic leukemia
Fever of undetermined origin

Doctor Dennehy's Diagnosis

Disseminated aspergillosis, involving central nervous system and lungs
Chronic lymphocytic leukemia

Pathological Discussion

George F. Meissner, MD*: The autopsy revealed leukemic infiltrates, characteristic of CLL in the bone marrow, lymph nodes, liver, and testes.

There was disseminated aspergillosis involving the heart, right lung, kidneys, urinary bladder, thyroid, liver, colon, and brain confirmed by cultures from several sites.

In the heart, these organisms caused a vegetative endocarditis, myocardial abscesses, and pericarditis (Figs 1 and 2). There was bilateral acute pyelonephritis. In the other involved organs there were isolated abscesses and localized meningitis. In the colon and bladder there were ulcerated lesions. In the brain, there was vasculitis with multiple hemorrhagic infarctions of cerebral hemispheres, cerebellum and pons. There was a small and microscopic pulmonary focus, possibly the portal of entry for aspergillosis. Dissemination occurred via blood stream from the large fungal vegetation of the mitral valve.

There was extensive bilateral bacterial bronchopneumonia with abscess formation due to pyogenic organisms rather than fungi.

Disseminated aspergillosis with vegetative endocarditis leading to congestive heart failure appears to have been the immediate cause of death.

Anatomic Diagnosis

Chronic lymphocytic leukemia
Disseminated aspergillosis with mitral valvulitis and congestive heart failure

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HAVE YOU HEARD? . . .

General Electric recently announced development of the Maxicamera® 300A system, designed specifically for bedside imaging of the heart and brain. It is one of a new line of high-performance gamma cameras which provide high-resolution images. The 300-mm field of view camera is equipped with Autotune® ZS electronics to prove detector stabilization by continuously retuning its 37 photomultiplier tubes.

• • •

The nation's first toll-free telephone number for physicians, nurses, and other health professionals with questions about potential organ donors has been established at the University of Pittsburgh. The number will assist health professionals by providing urgently-needed information for transplants and referring callers to procurement organizations in their area. The number, restricted to doctors, nurses, and other health professionals, is 800-24-DONOR and is staffed on a 24-hour-per-day basis.

• • •

According to a study recently released by the National Center for Policy Analysis, low-income families "who are covered by Medicaid have the best and most complete protection against medical expenses" of any group in the country. The study, conducted by Harry Schwartz, a health economist at Columbia University, concludes that

people with family incomes of less than \$5,000 visit physicians more often than any other income group. They also spend more days in the hospital than any other group — twice as many days for example, as people with family incomes of \$25,000 or more. Schwartz noted that as a result of Medicare and private health insurance, more than "94 per cent of the American people are covered by a private or public health insurance plan."

• • •

According to the Calorie Control Council, a manufacturers' association, action is expected in the near future on the following artificial sweeteners: 1) Aspartame® — GD Searle and Co has petitioned the Food and Drug Administration (FDA) for approval for use as a tabletop sweetener and for use in various food mixes in 1981; 2) Acesulfame K® — American Hoechst Corp has petitioned the FDA for approval of this sweetener's use in tabletop sweeteners, chewing gums, dry beverage mixes, and some confectioneries; 3) Cyclamate® — The Calorie Control Council and Abbott Laboratories have petitioned jointly for the reapproval of Cyclamate on the basis of 75 new safety studies conducted since it was banned in 1970; and 4) Saccharin — Extensive safety research conducted over the past five years will be presented later in 1983 to further

(Continued on page 245)

First American Description of Calcific Aortic Stenosis

General William Whipple, by Ordering an Autopsy on His Own Remains, Provided for This Significant Medical Milestone

Elihu S. Wing Jr, MD

That the fifty-six signers of the Declaration of Independence on July 4, 1776 created the most significant document in the history of our country is well established. These men from varying backgrounds were able to unite in a common cause for which America is eternally grateful. They ranged in age from 27 to 70 years, with an average age of about 44 years. As frequently was the case in our early history, men pursued many and diverse roles during their lives and thus made a number of unique and substantial contributions.

Such was the case with General William Whipple, 1730-1785 (Fig 1). Following his early education he went to sea in his teens. By the age of 21 years, he was the master of a sailing vessel trading primarily in the West Indies. He was very successful, and at the age of 29 years joined his brother in a mercantile business in Portsmouth, New Hampshire. About the same time he became deeply involved in the colonial concern of British domination. In 1770 he accepted increasing public responsibilities and was elected to Congress for three terms. He was one of two signers of the Declaration of Independence from New Hampshire. Subsequently, he became one of the very few signers who actually took part in active military service. He took temporary leave from Congress and was appointed a Brigadier General commanding the First New Hampshire Brigade.

He saw battle at Stillwater and at Saratoga, where he was later appointed to arrange the surrender of British General John Burgoyne in October 1777. In August 1778, he took part in the unsuccessful campaign to recapture the island of Aquidneck and Newport.²⁻⁵ After the war he returned to New Hampshire and became active in the New Hampshire legislature where he assumed the arduous task of dealing with the state's finances.

During the year 1780, after an apparent robust and healthy life, the General began "to experience strictures of the breast which were at times very painful to him. A little exercise would bring on violent palpitations of the heart which were very distressing. Riding on horseback often produced this effect and sometimes caused him to faint and fall from his horse. This complaint prevented him from engaging in the active scenes of life and induced him to resign his military command. He was then appointed a judge in June 1782, a position he maintained for three years. However, his disorder became more and more painful and so restricted his ability to carry out his responsibilities that he was obliged to leave the court before the circuit was completed. The illness prevented him from sleeping in bed so that his only refreshment came from sleeping in a chair. He departed this life suddenly on November 10, 1785."^{2, 3}

Due to the unusual nature of his discomfort and the limitations it placed on his later life, General Whipple felt that there must be a logical explanation for his state of health. Indeed, he felt that he was working under the threat of imminent and sudden death. Therefore, he directed that his body be opened and examined following

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his death.³ This was certainly an unusual request, since granting permission for an autopsy in those days was most rare.

The task of performing this examination was given to his brother-in-law, Doctor Joshua Brackett (1733-1799).³ He also lived in Portsmouth, sharing a practice with Doctor Hall Jackson (1739-1797). Doctor Brackett attended Harvard College and was given an honorary medical degree in 1792. He was a member of the Massachusetts Medical Society and was among the founders of the New Hampshire Medical Society in 1791. He served initially as vice president and later as president for six years. It was he who began the practice twice a year of presenting cases before the New Hampshire Medical Society for

America of what is now so readily recognized as calcific aortic stenosis (Fig 2).

It is generally acknowledged that Giovanni Battista Morgagni (1682-1771) first recognized the occasional finding of a "bony" aortic valve in his classic text of pathological anatomy *De Sedibus et Causis Morborum* published in Padua in 1761.

Both the clinical history and pathological findings presented by General Whipple were most assuredly those of aortic stenosis. Friedberg⁸ in his textbook graphically describes the classic salient findings. The disorder occurs most often in



Figure 1. General William Whipple (1730-85).

discussion. It would be hard to believe that the interesting findings presented by General Whipple's medical history and autopsy were not thoroughly discussed at such a meeting.⁶

Thus, it came about that Doctor Brackett, probably assisted by Doctor Jackson, performed an autopsy upon General Whipple. "His body was opened, and it was found that an ossification had taken place in his heart; the valve was united to his aorta, only a small aperture, the size of a knitting needle was open, through which all of the blood flowed in its circulation, and when any sudden motion gave it new impulse, it produced the palpitation and faintness to which he was liable."^{2, 3} As far as can be determined, this is the first clinical and pathological description in



Figure 2. Calcific aortic stenosis in a 56-year-old white male.

males, usually of advancing age. Symptoms frequently do not occur until late in the course of the disease. Dizziness, syncope, cardiac pain, and palpitations are paramount complaints. To these are added the intensification of pain with faintness on exertion or change of position, shortness of breath, weakness of pulse, and conduction disturbances. Ultimately, left and later right ventricular failure occurs, and sudden death is not infrequent.

We do not know whether General Whipple died suddenly with acute congestive heart failure associated with coronary artery insufficiency, or acute arrhythmia, or both. From a review of the last few years of his life, and particularly of the last month, a combination of all of these factors would appear to be likely. As far as can be ascertained, he led a very vigorous and full life without any known previous illness to limit his activity.

Of course, the knowledge and tools of clinical diagnosis were not available to the physicians of the late 18th century. It was Jean N. Corvisart in 1806 in his *Essay on the Maladies and the Organic Lesions of the Heart* who first delineated the physical findings of valvular disease. He described the thrill associated with aortic stenosis. In 1816 René T. H. Laënnec discovered the stethoscope.⁹ He published his famous treatise on auscultation in 1819 and further observations in 1826, the year of his death.¹⁰ In these he describes the typical systolic bruit at the base of the heart which is so familiar to us now as being associated with aortic stenosis.

It is of added interest that Doctor William Withering published his classic monograph on foxglove in 1785.¹¹ Doctor Hall Jackson more

than likely was one of the first physicians in America to obtain a copy of this book. In correspondence with Withering, he promptly sent for some foxglove seeds, since this plant had not been known to grow in America.^{12, 13} He used the medication successfully in his practice and was foremost in dispensing it to well-known physicians throughout the colonies. It is indeed paradoxical that a medication which might have prolonged General Whipple's life first became available in this country within a year of his death and in the same small town, Portsmouth, New Hampshire, where he had resided.

We are grateful to William Whipple for his multifaceted interests in life and the contributions which he made as a sea captain, merchant, legislator, signer of the Declaration of Independence, General of the Army, state treasurer, and judge.⁵ From a medical perspective, we appreciate his inquiring concern during his failing health, resulting in his willingness to establish that his symptoms were indeed based upon significant pathological changes which led him rightly to believe that "he was working under the threat of imminent and sudden death."

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Providence, Rhode Island 02906

Have You Heard?

(Continued from page 242)

support the safety of saccharin. A Congressional moratorium preventing an FDA ban on saccharin expires later this year.

• • •

Gammex, Inc. has introduced a laser patient positioning system that is now adaptable to all chest x-ray film machines. Hospitals using the system have reported approximately 25-33 per cent few-

er retakes. The use of fiberoptic cables and a miniature output head design made this development possible. The miniature laser output head can easily be mounted on any x-ray collimator. A connecting fiberoptic cable allows free movement of the collimator to accommodate adjustment in positioning. This compact unit projects four red laser guidelines. Three vertical lines mark the

(Continued on page 246)

Have You Heard?

(Continued from page 245)

patient's centerline and outside edges of the film. A horizontal line indicates the top edge of the film.

• • •

AVI, Inc., a Minnesota-based company which develops and manufactures volumetric infusion systems, has introduced microprocessor-controlled infusion systems for arterial infusions, nutritional support, chemotherapy, neonatal, and other specialized applications. The Guardian 100® administers fluids at 960 increments/ml for standard applications. The AVI pumping concept provides a constant, non-pulsating flow at selected rates from 1-999 ml/hr in 1 ml/hr increments. When smaller increments of fluid are required, the Guardian 110® administers fluid at 2,400 increments/ml at selected rates from .1-99.9 ml/hr in .1 ml/hr increments. Flow rates are independent of temperature, solution, intravenous tubing, viscosity, and venous or arterial pressure.

• • •

The Patient Care Division of Johnson & Johnson Products, Inc. has announced the introduction of NU GAUZE® General Use Sponge as a replacement for gauze sponges. This new sponge is composed of synthetic fibers for strength and rayon fibers for absorbency. It provides 47 per cent greater absorbency than 12 ply gauze yet is less expensive. The fabric also is less abrasive on wounds than gauze.

• • •

Researchers from The Upjohn Company have found that a low-fat diet in infancy prevents diabetes in a strain of Chinese hamsters genetically programmed to develop the disease. Because severely diabetic animals are often infertile, hamsters used for breeding were fed a low-fat (4 per cent) diet in an attempt to improve their fertility. Although there was no increase in fertility, scientists observed that offspring born to females on this diet developed diabetes later in life and of lesser severity than genetically similar offspring from females on a high-fat (11 percent) diet. Upjohn researcher George C. Gerritsen, PhD, noted that these studies may have implications for the treatment of human subjects: "Physicians now emphasize diet control as the first step in treating diabetic patients. But we're talking here about treatment of prediabetics . . . I believe that if there were some way to spot prediabetic infants, a low-fat diet with adequate but limited calories could be of considerable benefit."

University of Hawaii scientists have isolated a natural appetite suppressing protein from the urine of fed rats. Carol M. Kinoshita, Ira J. Lichten, and Harry Ako have also reported that appetite-suppressing activity has been found in the urine of pigs, geese, and human beings. They note that it seems likely that people manufacture a natural protein which suppresses eating and that drugs or diet which stimulate this protein may one day be part of weight control programs.

• • •

Cutter Medical has announced the development of a low-volume 0.22 micron intravenous (IV) filter for use in cases where standard-sized filters may be too large or require excessive priming for the amount of medication administered. The new Pureflo® low-volume filter has applications in pediatric treatment, intensive care, critical care, and oncology management when low-volume filtration is necessary. It also is applicable when minimal dilution of intravenous medication additions is needed.

• • •

Roche Laboratories initiated a major patient education effort in May. The program — designed to convey information about the most effective ways to use prescription drugs — includes the publication of more than 12 million booklets on five classes of drugs: antibacterials, antiarthritics, diuretics, tranquilizers, and sleep medications. The campaign also includes television and radio public service announcements and advertisements in magazines and newspapers.

Gerontology Note

In a bibliographic sketch of Doctor Robert Linton (1900-1979), famed vascular surgeon of the Massachusetts General Hospital, appears this item: "The following notes are from Doctor Linton's log: 'Operation: December 8 and 9, 1970, Resection of thoracoabdominal aneurysm from left subclavian artery to both groins, with grafts to all visceral vessels; 13 anastomoses; gastrostomy.' The record documents that seven scrub nurses, five anesthetists, and three residents assisted while one Doctor Linton carried on for 23 hours. A further note in his log reads, 'patient did well.' Doctor Linton was 70 years old at the time."

—R. Clement Darling, MD, in *Vascular Diagnosis and Surgery*, March/April 1983

Medical Care for the Unemployed

To the Editor:

Despite positive signs of an economic recovery, we continue to face problems of the "new poor," those individuals who have lost their jobs, often for the first time in their lives. Frequently, they have exhausted their unemployment benefits, but do not qualify for Medicaid. Experience has shown that the newly-unemployed, without the cushion of health insurance, will allow their medical problems to deteriorate until comparatively minor conditions become serious. And the unfortunate corollaries of unemployment are an increase in social and psychological problems such as alcoholism and domestic violence which may have clinical repercussions.

More than 100 county and state medical societies have established programs to make certain that the newly-unemployed receive medical treatment. These activities range from formal screening programs to ad hoc coalitions. The Harris (Texas) County Medical Society, for example, is coordinating efforts by 1,000 of its 4,500 members who have volunteered to waive charges for two or three patients a week. According to the Society's president, Doctor Joel E. Reed, "We have no intention of replacing welfare services. We're simply trying to do what we can for those

people who have fallen through the health care cracks."

While the Council of the Rhode Island Medical Society considers the most effective means of dealing with the medical problems of the unemployed during the coming months, it was urged that we:

- 1) recognize the fact that many Rhode Island physicians already provide medical care at reduced, delayed, or waived rates to their patients who have lost their jobs and have no health insurance.
- 2) encourage physicians who do not have such a policy to consider adopting one; and
- 3) encourage all physicians to discuss their charges with their patients.

The Council needs to hear from you as we deal with this problem. What approach would work best in Rhode Island to meet the health care needs of the unemployed? If you have thoughts on these matters, you are urged to forward them to the Council.

Melvin D. Hoffman, MD
President
May 3, 1983

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Discontinuation of Valium (or Valrelease) is typically as smooth as its start in short-term therapy. However, Valium and Valrelease should be discontinued gradually after more extended treatment. As you diminish dosage, the built-in tapering action of Valium and Valrelease will help avoid rapidly recurring anxiety symptoms and symptoms of withdrawal, and will help ease the patient's transition to independent coping when therapeutic goals have been achieved.

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Before prescribing, please consult complete product information, a summary of which follows:

Indications: Management of anxiety disorders, or short-term relief of symptoms of anxiety. Anxiety or tension associated with the stress of everyday life usually does not require treatment with an anxiolytic. Symptomatic relief of acute agitation, tremor, impending or acute delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in: relief of skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders; athetosis; stiff-man syndrome. *Oral forms* may be used adjunctively in convulsive disorders, but not as sole therapy. *Injectable form* may also be used adjunctively in: status epilepticus; severe recurrent seizures; tetanus; anxiety, tension or acute stress reactions prior to endoscopic/surgical procedures; cardioversion.

The effectiveness of diazepam in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

Contraindications: Tablets or capsules in children under 6 months of age; known hypersensitivity; acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: As with most CNS-acting drugs, caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals (drug addicts or alcoholics) under careful surveillance because of predisposition to habituation/dependence.

Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because their use is rarely a matter of urgency and because of increased risk of congenital malformations, as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

ORAL: Advise patients against simultaneous ingestion of alcohol and other CNS depressants.

Not of value in treatment of psychotic patients; should not be employed in lieu of appropriate treatment. When using oral forms adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increase in dosage of standard anticonvulsant medication; abrupt withdrawal in such cases may be associated with temporary increase in frequency and/or severity of seizures.

INJECTABLE: To reduce the possibility of venous thrombosis, phlebitis, local irritation, swelling and, rarely, vascular impairment when used IV: inject slowly, taking at least one minute for each 5 mg (1 ml) given; do not use small veins, i.e., dorsum of hand or wrist; use extreme care to avoid intra-arterial administration or extravasation. Do not mix or dilute with other solutions or drugs in syringe or infusion flask. If it is not feasible to administer Injectable Valium directly IV, it may be injected slowly through the infusion tubing as close as possible to the vein insertion.

Administer with extreme care to elderly, very ill, those with limited pulmonary reserve because of possibility of apnea and/or cardiac arrest; concomitant use of barbiturates, alcohol or other CNS depressants increases depression with increased risk of apnea; have resuscitative facilities available. When used with narcotic analgesic eliminate or reduce narcotic dosage at least 1/3; administer in small increments. Should not be administered to patients in shock, coma, acute alcoholic intoxication with depression of vital signs.

Has precipitated tonic status epilepticus in patients treated for petit mal status or petit mal variant status. Not recommended for OB use.

Efficacy/safety not established in neonates (age 30 days or less); prolonged CNS depression observed. In children, give slowly (up to 0.25 mg/kg over 3 minutes) to avoid apnea or prolonged somnolence; can be repeated after 15 to 30 minutes. If no relief after third administration, appropriate adjunctive therapy is recommended.

Precautions: If combined with other psychotropics or anticonvulsants, carefully consider individual pharmacologic effects—particularly with known compounds which may potentiate action of diazepam, i.e., phenothiazines, narcotics, barbiturates, MAO inhibitors and antidepressants. Protective measures indicated in highly anxious patients with accompanying depression who may have suicidal tendencies. Observe usual precautions in impaired hepatic function; avoid accumulation in patients with compromised kidney function. Limit oral dosage to smallest effective amount in elderly and debilitated to preclude ataxia or over sedation (initially 2 to 2½ mg once or twice daily, increasing gradually as needed and tolerated).

The clearance of diazepam and certain other benzodiazepines can be delayed in association with Tagamet (cimetidine) administration. The clinical significance of this is unclear.

INJECTABLE: Although promptly controlled, seizures may return; readminister if necessary; not recommended for long-term maintenance therapy. Laryngospasm/increased cough reflex are possible during peroral endoscopic procedures; use topical anesthetic, have necessary countermeasures available. Hypotension or muscular weakness possible, particularly when used with narcotics, barbiturates or alcohol. Use lower doses (2 to 5 mg) for elderly/debilitated.

Adverse Reactions: Side effects most commonly reported were drowsiness, fatigue, ataxia. Infrequently encountered were confusion, constipation, depression, diplopia, dysarthria, headache, hypotension, incontinence, jaundice, changes in libido, nausea, changes in salivation, skin rash, slurred speech, tremor, urinary retention, vertigo, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity;

insomnia, rage, sleep disturbances and stimulation have been reported; should these occur, discontinue drug.

Because of isolated reports of neutropenia and jaundice, periodic blood counts, liver function tests advisable during long-term therapy. Minor changes in EEG patterns, usually low-voltage fast activity, observed in patients during and after diazepam therapy are of no known significance.

INJECTABLE: Venous thrombosis/phlebitis at injection site, hypoaesthesia, syncope, bradycardia, cardiovascular collapse, nystagmus, urticaria, hiccups, neutropenia. In peroral endoscopic procedures, coughing, depressed respiration, dyspnea, hyperventilation, laryngospasm/pain in throat or chest have been reported.

Dosage: Individualize for maximum beneficial effect.

ORAL: Adults: Anxiety disorders, relief of symptoms of anxiety—Valium (diazepam/Roche) tablets, 2 to 10 mg b.i.d. to q.i.d.; or 1 or 2 Valrelease capsules (15 to 30 mg) daily. Acute alcohol withdrawal—tablets, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; or 2 capsules (30 mg) the first 24 hours, then 1 capsule (15 mg) daily as needed. Adjunctively in skeletal muscle spasm—tablets, 2 to 10 mg t.i.d. or q.i.d.; or 1 or 2 capsules (15 to 30 mg) once daily. Adjunctively in convulsive disorders—tablets, 2 to 10 mg b.i.d. to q.i.d.; or 1 or 2 capsules (15 to 30 mg) once daily.

Geriatric or debilitated patients: Tablets—2 to 2½ mg 1 or 2 times daily initially, increasing as needed and tolerated (see Precautions). Capsules—1 capsule (15 mg) daily when 5 mg oral Valium has been determined as the optimal daily dose.

Children: Tablets—1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use in children under 6 months). Capsules—1 capsule (15 mg) daily when 5 mg oral Valium has been determined as the optimal daily dose (not for use in children under 6 months).

INJECTABLE: Usual initial dose in older children and adults is 2 to 20 mg I.M. or I.V., depending on indication and severity. Larger doses may be required in some conditions (tetanus). In acute conditions injection may be repeated within 1 hour, although interval of 3 to 4 hours is usually satisfactory. Lower doses (usually 2 to 5 mg) with slow dosage increase for elderly or debilitated patients and when sedative drugs are added. (See Warnings and Adverse Reactions.) For dosages in infants and children see below; have resuscitative facilities available.

I.M. use: by deep injection into the muscle.

I.V. use: inject slowly, take at least one minute for each 5 mg (1 ml) given. Do not use small veins, i.e., dorsum of hand or wrist. Use extreme care to avoid intra-arterial administration or extravasation. Do not mix or dilute Valium with other solutions or drugs in syringe or infusion flask. If it is not feasible to administer Valium directly IV, it may be injected slowly through the infusion tubing as close as possible to the vein insertion.

Moderate anxiety disorders and symptoms of anxiety, 2 to 5 mg I.M. or I.V., and severe anxiety disorders and symptoms of anxiety, 5 to 10 mg I.M. or I.V., repeat in 3 to 4 hours if necessary; acute alcohol withdrawal, 10 mg I.M. or I.V. initially, then 5 to 10 mg in 3 to 4 hours if necessary. Muscle spasm, in adults, 5 to 10 mg I.M. or I.V. initially, then 5 to 10 mg in 3 to 4 hours if necessary (tetanus may require larger doses); in children administer I.V. slowly; for tetanus in infants over 30 days of age, 1 to 2 mg I.M. or I.V., repeat every 3 to 4 hours if necessary; in children 5 years or older, 5 to 10 mg repeated every 3 to 4 hours as needed. Respiratory assistance should be available.

Status epilepticus, severe recurrent convulsive seizures (I.V. route preferred), 5 to 10 mg adult dose administered slowly; repeat at 10- to 15-minute intervals up to 30 mg maximum. Repeat in 2 to 4 hours if necessary, keeping in mind possibility of residual active metabolites. Use caution in presence of chronic lung disease or unstable cardiovascular status. Infants (over 30 days) and children (under 5 years), 0.2 to 0.5 mg slowly every 2 to 5 min., up to 5 mg (I.V. preferred). Children 5 years plus, 1 mg every 2 to 5 min., up to 10 mg (slow I.V. preferred); repeat in 2 to 4 hours if needed. EEG monitoring may be helpful. In endoscopic procedures, titrate I.V. dosage to desired sedative response, generally 10 mg or less but up to 20 mg (if narcotics are omitted) immediately prior to procedure; if I.V. cannot be used, 5 to 10 mg I.M. approximately 30 minutes prior to procedure. As preoperative medication, 10 mg I.M.; in cardioversion, 5 to 15 mg I.V. within 5 to 10 minutes prior to procedure. Once acute symptomatology has been properly controlled with injectable form, patient may be placed on oral form if further treatment is required.

Management of Overdosage: Manifestations include somnolence, confusion, coma, diminished reflexes. Monitor respiration, pulse, blood pressure; employ general supportive measures, I.V. fluids, adequate airway. Use levaterenol or metaraminol for hypotension. Dialysis is of limited value.

How Supplied:

ORAL: Valium scored tablets—2 mg, white; 5 mg, yellow; 10 mg, blue—bottles of 100 and 500; Prescription Paks of 50, available in trays of 10; Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25 and in boxes containing 10 strips of 10.

Valrelease (diazepam/Roche) slow-release capsules—15 mg (yellow and blue), bottles of 100; Prescription Paks of 30.

INJECTABLE: Ampuls, 2 ml, boxes of 10; Vials, 10 ml, boxes of 1; Tel-E-Ject® (disposable syringes), 2 ml, boxes of 10. Each ml contains 5 mg diazepam, compounded with 40% propylene glycol, 10% ethyl alcohol, 5% sodium benzoate and benzoic acid as buffers, and 1.5% benzyl alcohol as preservative.



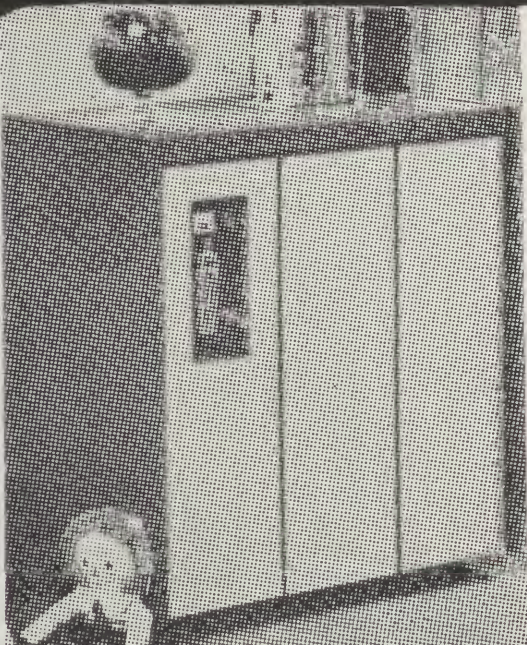
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Bactrim™ DS (trimethoprim and sulfamethoxazole/Roche)

Before prescribing, please consult complete product information, a summary of which follows:

Indications and Usage: For the treatment of urinary tract infections due to susceptible strains of the following organisms: *Escherichia coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis*, *Proteus vulgaris*, *Proteus morganii*. It is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single effective antibacterial agent rather than the combination. Note: The increasing frequency of resistant organisms limits the usefulness of all antibacterials, especially in these urinary tract infections.

For acute otitis media in children due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over other antimicrobials. To date, there are limited data on the safety of repeated use of Bactrim in children under two years of age. Bactrim is not indicated for prophylactic or prolonged administration in otitis media at any age.

For acute exacerbations of chronic bronchitis in adults due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over a single antimicrobial agent.

For enteritis due to susceptible strains of *Shigella flexneri* and *Shigella sonnei* when antibacterial therapy is indicated.

Also for the treatment of documented *Pneumocystis carinii* pneumonia.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; patients with documented megaloblastic anemia due to folate deficiency; pregnancy at term; nursing mothers because sulfonamides are excreted in human milk and may cause kernicterus; infants less than 2 months of age.

Warnings: BACTRIM SHOULD NOT BE USED TO TREAT STREPTOCOCCAL PHARYNGITIS. Clinical studies show that patients with group A β -hemolytic streptococcal tonsillopharyngitis have higher incidence of bacteriologic failure when treated with Bactrim than do those treated with penicillin. Deaths from hypersensitivity reactions, hepatocellular necrosis, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBCs are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

Precautions: General: Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function. Bactrim may prolong prothrombin time in those receiving warfarin; reassess coagulation time when administering Bactrim to these patients.

Pregnancy: Teratogenic Effects: Pregnancy Category C. Because trimethoprim and sulfamethoxazole may interfere with folic acid metabolism, use during pregnancy only if potential benefits justify the potential risk to the fetus.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, hepatocellular necrosis, diarrhea, pseudomembranous colitis and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: Not recommended for infants less than two months of age. URINARY TRACT INFECTIONS AND SHIGELLOSIS IN ADULTS AND CHILDREN, AND ACUTE OTITIS MEDIA IN CHILDREN:

Adults: Usual adult dosage for urinary tract infections—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days. Use identical daily dosage for 5 days for shigellosis.

Children: Recommended dosage for children with urinary tract infections or acute otitis media—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. Use identical daily dosage for 5 days for shigellosis.

For patients with renal impairment: Use recommended dosage regimen when creatinine clearance is above 30 ml/min. If creatinine clearance is between 15 and 30 ml/min, use one-half the usual regimen. Bactrim is not recommended if creatinine clearance is below 15 ml/min.

ACUTE EXACERBATIONS OF CHRONIC BRONCHITIS IN ADULTS:

Usual adult dosage: 1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 14 days.

PNEUMOCYSTIS CARINII PNEUMONITIS:

Recommended dosage: 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.

Supplied: Double Strength (DS) tablets, each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 20. Tablets, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 40. Pediatric Suspension, containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); cherry flavored—bottles of 100 ml and 16 oz (1 pint). Suspension, containing 40 mg trimethoprim and 200 mg sulfamethoxazole per tea spoonful (5 ml); fruit-licorice flavored—bottles of 16 oz (1 pint).



ROCHE LABORATORIES
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110

In vitro studies demonstrate

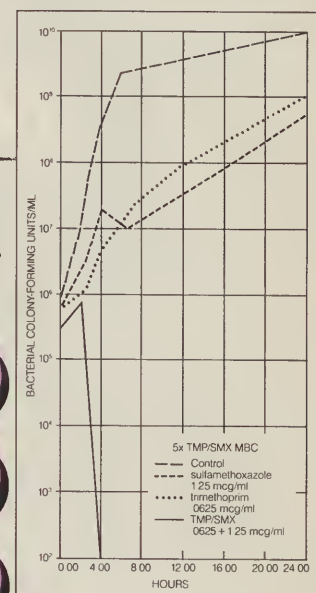
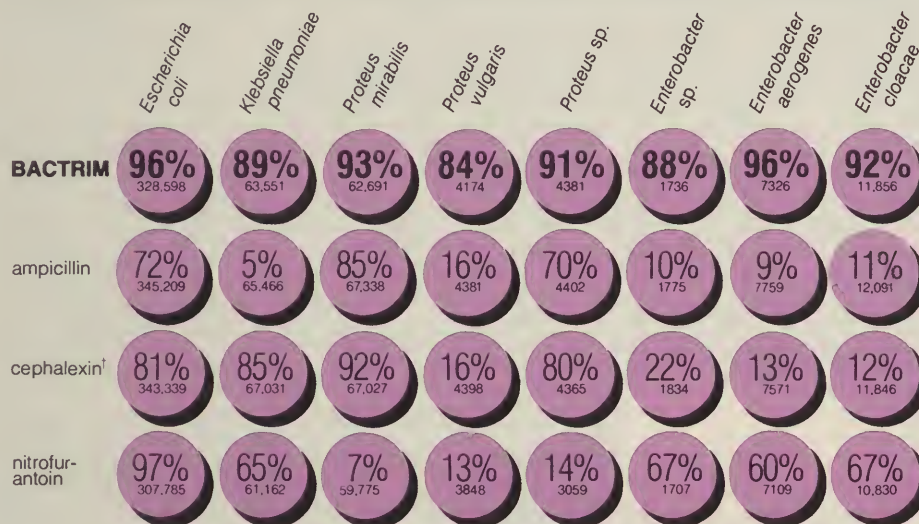


Bactericidal activity

with minimal resistance

RAPID IN VITRO DESTRUCTION OF *E. COLI**

Percent of isolates of common uropathogens sensitive to BACTRIM and to other antimicrobials



Kill curve kinetics of Bactrim and its individual components against *E. coli* *in vitro*.¹

†Analogous to cephalothin, the primary antibiotic disc used in testing.

Source: The Bacteriologic Report, BAC-DATA Medical Information Systems, Inc., Winter Series, 1981-82. Numbers under percentages refer to the projected number of isolates tested.

The bactericidal action of Bactrim has been demonstrated *in vitro* on laboratory strains of *E. coli*^{1,2} and on clinical isolates of *E. coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis* and *Morganella morganii*³—the most common causative organisms of urinary tract infections.⁴ More than 100 published studies attest to the efficacy of Bactrim in recurrent urinary tract infections due to these organisms.⁵ In comparative studies with other antimicrobials, Bactrim has consistently demonstrated unsurpassed efficacy during therapy.⁶⁻¹¹

Resistance to Bactrim develops more slowly than to either of its components alone *in vitro*.^{*} Among urinary tract isolates, resistance has rarely emerged in susceptible strains.^{5,12} Bactrim is contraindicated in pregnancy at term, during lactation, in infants less than two months old and in documented megaloblastic anemia due to folate deficiency. Initial episodes of uncomplicated urinary infections should be treated with a single-agent antimicrobial.

Bactrim™ DS

(trimethoprim and sulfamethoxazole/Roche)

b.i.d. for recurrent urinary tract infections

**In vitro* data do not necessarily predict clinical results.

Motrin[®]

ibuprofen, Upjohn

600 mg Tablets



More convenient for your patients

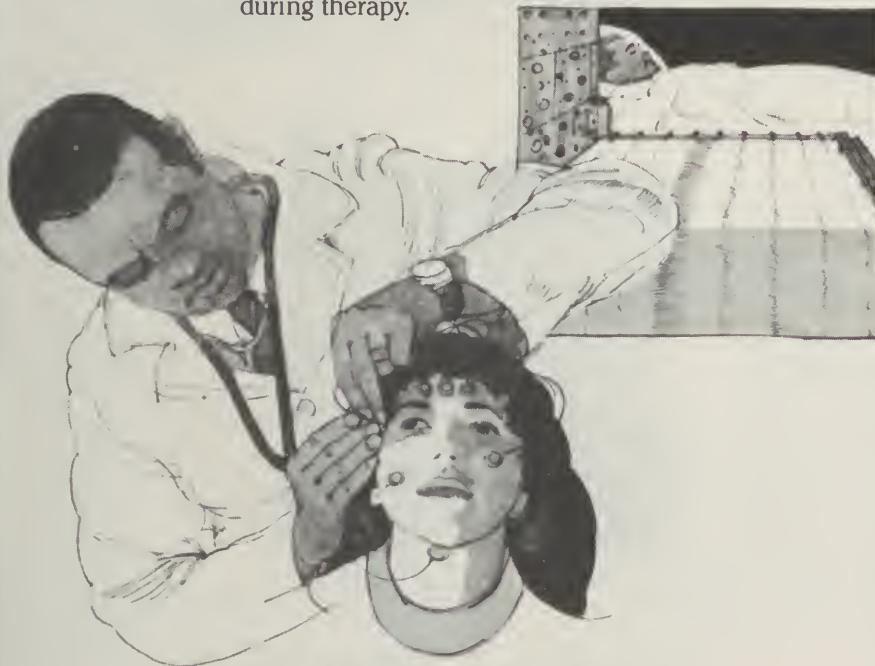
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- Studied extensively in the sleep laboratory—the most valid environment for measuring hypnotic efficacy.¹⁻¹²
- Studied in over 200 clinical trials involving over 10,000 patients.¹³
- During long-term therapy, which is seldom required, periodic blood, kidney and liver function tests should be performed.
- Contraindicated in patients who are pregnant or hypersensitive to flurazepam.
- Caution patients about drinking alcohol, driving or operating hazardous machinery during therapy.



References: 1. Kales A et al: *J Clin Pharmacol* 17:207-213, Apr 1977 and data on file, Hoffmann-La Roche Inc., Nutley, NJ. 2. Kales A: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. 3. Zimmerman AM: *Curr Ther Res* 13:18-22, Jan 1971. 4. Kales A et al: *JAMA* 241:1692-1695, Apr 20, 1979. 5. Kales A, Scharf MB, Kales JD: *Science* 201:1039-1041, Sep 15, 1978. 6. Kales A et al: *Clin Pharmacol Ther* 19:576-583, May 1976. 7. Kales A, Kales JD: *Pharmacol Physicians* 4:1-6, Sep 1970. 8. Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc* 27:541-546, Dec 1979. 9. Dement WC et al: *Behav Med* 5:25-31, Oct 1978. 10. Vogel GW: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. 11. Karacan I, Williams RL, Smith JR: The

sleep laboratory in the investigation of sleep and sleep disturbances. Scientific exhibit at the 124th annual meeting of the American Psychiatric Association, Washington, DC, May 3-7, 1971. 12. Pollak CP, McGregor PA, Weitzman ED: The effects of flurazepam on daytime sleep after acute sleep-wake cycle reversal. Presented at the 15th annual meeting of the Association for Psychophysiological Study of Sleep, Edinburgh, Scotland, June 30-July 4, 1975. 13. Data on file, Hoffmann-La Roche Inc., Nutley, NJ.

Dalmane® (flurazepam HCl/Roche)

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; in acute or chronic medical situations requiring restful sleep. Objective sleep laboratory data have shown effectiveness for at least 28 consecutive nights of administration. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended. Repeated therapy should only be undertaken with appropriate patient evaluation.

Contraindications: Known hypersensitivity to flurazepam HCl; pregnancy. Benzodiazepines may cause fetal damage when administered during pregnancy. Several studies suggest an increased risk of congenital malformations associated with benzodiazepine use during the first trimester. Warn patients of the potential risks to the fetus should the possibility of becoming pregnant exist while receiving flurazepam. Instruct patient to discontinue drug prior to becoming pregnant. Consider the possibility of pregnancy prior to instituting therapy.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, e.g., excitement, stimulation and hyperactivity.

Dosage: Individualize for maximum beneficial effect. **Adults:** 30 mg usual dosage; 15 mg may suffice in some patients. **Elderly or debilitated patients:** 15 mg recommended initially until response is determined.

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.



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Manati, Puerto Rico 00701

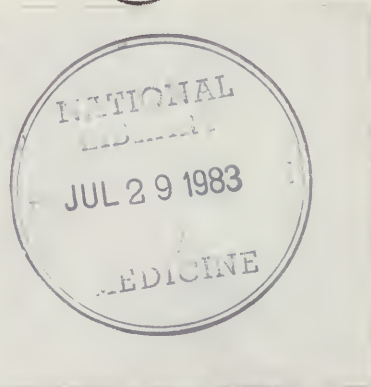
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criteria:

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therapy is discontinued.^{1,4,5}



15-mg/30-mg capsules

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flurazepam HCl/Roche



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Please see summary of product information on reverse side.

RH488

Rhode Island Medical Journal

July 1983

Volume 66, Number 7

A View of the Front Campus
and Manning Chapel at
Brown University with the
Van Wickle Gates in
foreground
See page 269



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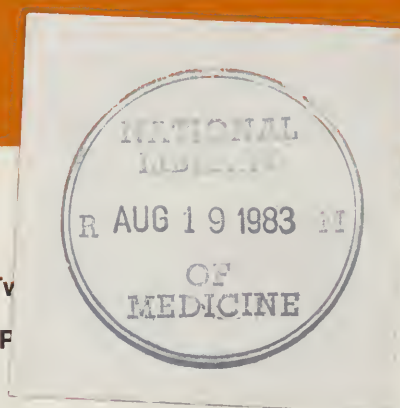
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LEGISLATIVE UPDATE

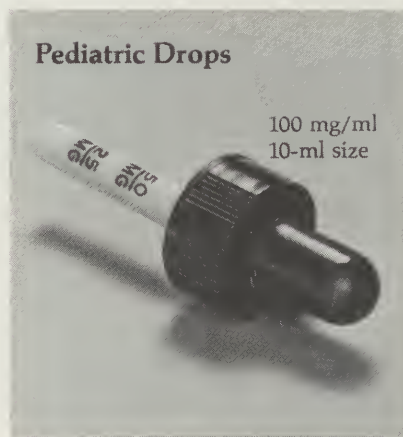
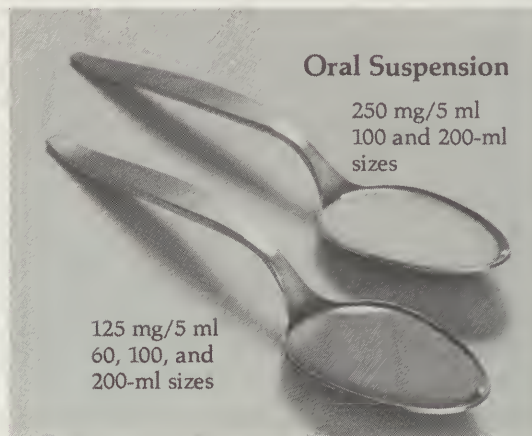
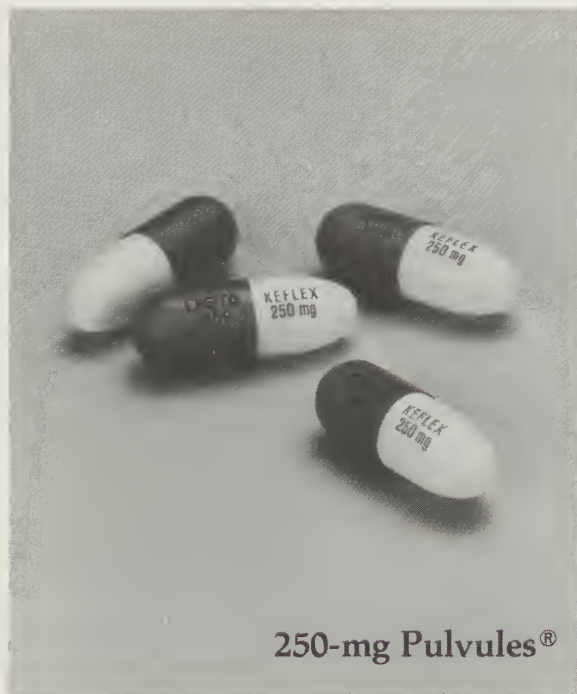
- 277 SPECIAL REPORT: RIMS FOUNDATION

HAVE YOU HEARD?

- 280



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Additional information available
to the profession on request.



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Newsletter

Charles P. Shoemaker, Jr., MD, President
Norman A. Baxter, PhD, Executive Director
Wendy J. Smith, Editor

July 1983

DR SHOEMAKER INSTALLED AT ANNUAL MEETING

Dr Charles P. Shoemaker, Jr., a Newport surgeon, was installed as the 127th President of the Rhode Island Medical Society at the Society's May 25 Annual Meeting. He succeeds Dr Melvin D. Hoffman of Providence. Other officers for 1983-84 are: Dr Paul J.M. Healey, Pawtucket, President-Elect; Dr Frank G. DeLuca, Providence, Vice-President; Dr Milton W. Hamolsky, Providence, Secretary; and Dr Kenneth E. Liffmann, Providence, Treasurer.

Nearly 160 members and their guests attended the annual meeting which featured Dr Hoffman's Presidential Address and comments by Dr Frank J. Jirka, President-Elect of the American Medical Association. Dr John A Dillon of Providence received the Charles L. Hill Award for distinguished service to the Society. At the general membership meeting, Society members ratified extensive changes in the Bylaws which had been approved by the House of Delegates last March. The changes are intended to streamline the Society's internal operations and to reflect the Society's activities more accurately.

The Presidential Address will be published in the August issue of the Journal and the revised Bylaws will be sent to all members later this year.

DR HOFFMAN MEETS WITH CHAMBER OFFICIALS

On his last day as the Society's President, Dr Melvin D. Hoffman met with the Medical Cost Containment Committee of the Rhode Island Federation of Chambers of Commerce. The group includes business and community leaders concerned about the escalating costs of medical care for their employees.

Dr Hoffman attributed the increase in medical costs to a number of factors, such as improved care and technological innovations, adequate salaries for hospital nurses and other support personnel, and rising malpractice insurance premiums for physicians. He also noted that first-dollar insurance coverage and low deductible payments have insulated many patients from the true costs of their medical treatment. He strongly encouraged the committee to include physicians in their future deliberations.

PHARMACISTS LAUNCH CAMPAIGN AGAINST DRUG ABUSE

The Rhode Island Pharmaceutical Association, together with McNeil Pharmaceutical and ACTION--The National Volunteer Agency, recently started a program to warn parents and children against the dangers of such commonly-abused drugs as alcohol, marijuana, and cocaine. The program is built around a free informational brochure, "The Kinds of Drugs Kids are Getting Into," which will be available at drug stores throughout the state. Public service announcements also will be broadcast on area radio and TV stations. Similar programs have been established in other New England states.

IMPACT OF THE 1981-82 RECESSION ON MEDICAL PRACTICE

The recession which began in mid-1981 and continued through December 1982 was marked by the highest unemployment rates since 1940 and reductions in the inflation-adjusted gross national product to 1979 levels. A recession can affect physicians' practices in several ways. Reductions in real income and increased unemployment among patients may decrease their use of physician services. In addition, diminished purchasing power can increase unpaid physician billings.

The Socio-Economic Monitoring System of the American Medical Association, however, recently reported that average patient visits increased by approximately one visit per week for all physicians during 1982. While average patient visits per week fell from the fourth quarter of 1981 to the first half of 1982 the decline was more than offset by an increase in patient visits during the last six months of the year. On the average, physicians' net practice incomes increased from the last quarter of 1981 to the first half of 1982 and remained constant for the rest of the year.

The report notes that patients generally did not reduce their utilization of medical care even as the economy deteriorated and postulates that "individuals and families apparently reduced their expenditures for other goods and services in order to ensure the maintenance of their health care."

While overall practice indicators reveal minimal direct impact of the recession on physicians, the state of the economy is affecting medical practice in other ways. An AMA survey of 1,200 doctors last December indicated that 79 per cent of the respondents had treated patients who lost their health insurance benefits as a result of unemployment. Almost 35 per cent had treated patients who lost Medicaid coverage due to program reductions.

More than 71 per cent of all physicians provided medical care at reduced or waived rates for their unemployed patients and experienced a six per cent decline in their potential billings as a result.

BROWN UNIVERSITY PROGRAM IN MEDICINE TO REORGANIZE

The Brown University Program in Medicine "Faculty Update" recently announced a proposal to restructure the Brown University Division of Biology and Medicine. The changes will result in:

- Ten new academic departments within the University to correspond to the hospital-based clinical sections within the Program in Medicine, with the addition of a Department of Orthopaedics.
- A new University committee to act as the final review body for medical school faculty appointments and promotions.
- A new Medical Faculty Council to replace the current Executive Committee. The Council will consist of Program in Medicine department chairpersons, four representatives from Biology, two members of the voluntary faculty, and a member of the faculty from each affiliated hospital not already represented by a department chairperson.
- A Division-wide Assembly to include all full-time and voluntary medical faculty. The Assembly will provide the faculty with an opportunity to influence decision-making within the Division and help establish policy.

AMA BOARD DEALS WITH PROPOSED JCAH REVISIONS

The American Medical Association Board of Trustees recently approved the following principles to be included in future drafts of the medical staff chapter of the Accreditation Manual for Hospitals:

- continue the designation "medical staff" rather than the proposed term "organized staff" throughout the document;
- eliminate references to dentists, podiatrists, oral surgeons, and other limited-license practitioners in the chapter on medical staffs;
- require medical staff executive committees in acute care general hospitals to include more than a simple majority of fully-licensed physicians;
- provide access for qualified limited-license practitioners; and
- ensure that all hospitalized patients receive the same standard of care.

The revision of the medical staff standards of the Joint Commission on the Accreditation of Hospitals (JCAH) has been underway since 1981. One of the more controversial recommendations in the proposed JCAH revisions would have been the replacement of the section on medical staff standards with one on "organized staff" because of anti-trust considerations. The JCAH is the defendant in several lawsuits which allege that the existing standards exclude licensed non-physician professionals who are authorized under state law to provide hospital services.

AMA HOUSE OF DELEGATES MEETS IN CHICAGO

The AMA House of Delegates met June 19-23, 1983 in Chicago. The Rhode Island Medical Society was represented by AMA Delegate Dr John J Cunningham and Alternate Delegate Dr Herbert F Hager. President Dr Charles P. Shoemaker, Jr., President-Elect Dr Paul J.M. Healey, and Executive Director Dr Norman A. Baxter also attended the meeting.

Highlights of the meeting will be published in the August Newsletter.

PERIPATETICS

Society members in the news include:

- John A. Dillon, MD, Providence, was the recipient of the Dr. Charles L. Hill Award for Distinguished Service to the Rhode Island Medical Society. The award -- presented at the May 25 annual meeting -- was named after the late Dr. Hill, who served as President during 1979-80.
- Marvin S. Wasser, MD, was elected recently to fellowship in the American Academy of Pediatrics.
- Paul Calabresi, MD, has been appointed Secretary-Treasurer of the American Board of Internal Medicine. Dr Calabresi is one of three elected officers from across the United States to serve on the Board.
- Abdul H. Khan, MD, has been named a fellow of the American College of Physicians.

IS ADVERTISING BY PHYSICIANS ETHICAL?

We frequently receive questions at the Society's offices from physicians and the general public about the appropriateness of advertisements by physicians. Are they ethical? What is considered within the bounds of good taste? The following information is from the 1982 *Current Opinions of the AMA Judicial Council* and a brochure, "Voluntary Guidelines for Physician Advertising," published by the Hennepin (MN) County Medical Society. Specific questions should be sent to the Mediation Committee, Rhode Island Medical Society, 106 Francis Street, Providence, Rhode Island 02903.

• *Is advertising by physicians ethical?*

It is acceptable for a physician to advertise the availability of his or her services. Although advertisements may be included in any form of public communication (such as newspapers, magazines, telephone directories, radio, and television), they should be restricted to the geographic area where the physician maintains an office or where most of his or her patients live and work.

• *What information may be included in an advertisement?*

Advertisements must be factual, direct, dignified, and readily understandable. They may include the following: the physician's name; name of the medical group with which the physician is associated; names of professional associates affiliated with the same group; office address and telephone numbers; office hours; educational background; available credit or other methods of payment; willingness to accept Medicaid patients; willingness to accept assignment under Medicare; whether or not a participating member of Blue Shield; and specialization or limitations of the physician's practice. Specialty or subspecialty designations must be limited to those boards recognized by the American Board of Medical Specialties in which the physician is certified.

Advertisements must *not* be misleading either through omission of significant information or false representation. Statements about the quality of medical services are difficult, if not impossible, to verify and measure against objective standards. Advertisements may not include patient testimonials about the physician's skills or unsupported claims of special expertise.

The *Current Opinions* specifically note: "A statement that a physician has cured or successfully treated a large number of cases involving a particular serious ailment may imply a certainty of result and create unjustified and misleading expectations in prospective patients."

• *What about community programs, health fairs, and screening programs?*

Physicians have a responsibility to participate in programs -- such as speeches to civic or church organizations -- which result in improved community health. Well-designed health fairs and screening programs also may benefit the public's health. It is appropriate to identify physicians participating in community services by name, specialty, and medical group or hospital affiliation. Physicians in these situations, however, must avoid self-aggrandizing statements which imply that they have unique qualifications or expertise.

Continuing Medical Education

SEMI-ANNUAL CALENDAR OF CONTINUING MEDICAL EDUCATION EVENTS

NOTE: Lectures and courses are listed by the date, sponsor, topic, speaker, and telephone number for additional information. Please call the contact number for specific information about the program.

JULY

- 6 IMH, "Coping with Illness (Depression)," Hugo M. Halo, MD, 464-2149
- 7 IMH, "Team Leadership-The Nursing Role," Mary Barry, RN, 464-2113
- 14 IMH, "Difficult Case Conference," John Melchionna, MD, 464-2013
- 20 IMH, "Forensic Issues," Manuel E. Soria, MD, 464-2149
- 21 IMH, "The Role of ADON (Spanning 3 Shifts)," Nursing staff, 464-2113
- 28 IMH, "Difficult Case Conference," Christopher J. Joo, MD, 464-2013

AUGUST

- 30 8-30/9-2, Brown Univ. Dept. of Orthopaedics, "Reconstructive Surgery in the Upper Extremity," Kingsbury Heiple, MD, 277-5594

SEPTEMBER

- 1 IMH, "Report from a Workshop on Pastoral Assessments," 464-2113
- 6 St. Joseph's Hosp., Providence Unit, "Update: Endocrine Dysfunction," Salvatore Allegra, MD, 456-3000
- 6 General Hosp. RIMC, "Exercise for the Treatment of Angina Pectoris," Paul Thomson, MD, 464-3493
- 7 IMH, "Deinstitutionalization," Thomas D. Romeo, M.Ed., 464-2149
- 8 IMH, "Difficult Case Conference," Domenic Coppolino, MD, 464-2013
- 12 General Hosp., RIMC, "Multi-Infarct Dementias," Srecko Pagocar, MD, 464-3493
- 13 RIH, Topic to be announced, Louis Goldfrank, MD and Jacek B. Franaszek, MD, 277-5826
- 13 General Hosp., RIMC, "Psycho-Geriatric Case Presentation," W. Japlit, MD and A. Suvari, MD, 464-3493
- 15 General Hosp., RIMC, "Neuropathological Conference," Verne S. Caviness, Jr., MD; Srecko Pogacar, MD, 464-3493
- 15 RIH, "Health Beliefs and Practices of Ethnic Americans," 277-4768
- 15 IMH, "Differences in Family Therapy Techniques," 464-2113

SEPTEMBER (continued)

- 19 Woonsocket Hospital, "Gastrointestinal Diseases," Saul Feldman, MD
765-3211, ext. 2311
- 21 Newport Hospital, "Treatment of Refractory Hypertension," Richard
Solomon, MD, 846-6400, ext. 1159
- 21 IMH, "JCAH Issues," Alfred E. Darby, MD, 464-2149
- 22 IMH, "Difficult Case Conference," Saul Martin, MD, 464-2013
- 22-23 RIH and American College of Surgeons, "Advanced Trauma Life Support
Course," Pardon Kenney, MD, 277-8333
- 26 General Hosp., "Clinical Significance of Alterations in Electrolytes
and Blood Gases in Aging," Horace Martin, MD, PhD, 464-3493
- 28 RIH, "Diabetes," Charles Kahn, MD and guest speakers, 277-8455
- 29 IMH, "The Multifarious Roles of the Activity Therapist," 464-2113

OCTOBER

- 3 General Hosp., "The Senescent Kidney," Kenneth L. Minaker, MD, 464-3493
- 4 St. Joseph's Hosp., Prov. Unit, "Current Management of Myocardial
Infarction," Irving Gilson, MD, 456-3000
- 5 IMH, "Issues on Confidentiality," Carmine Rao, JD, 464-2149
- 6 IMH, "Difficult Case Conference," Frank D.E. Jones, MD, 464-2013
- 11 General Hosp., "Psycho-Geriatric Case Presentation," Jacques Mioni, MD
and D.A. Dimen, MD, 464-3493
- 13 IMH, "DSM-III/Videotape," Hugo H. Halo, MD, 464-2113
- 14-15 American College of Physicians, "Aging: The State of the Art,"
272-6550
- 17 General Hosp., "Movement Disorders in the Elderly," Petro
Karanasias, MD, 464-3493
- 19 Newport Hosp., "Analgesics/Mild to Moderate Pain," Toussaint
Leclercq, MD, 846-6400, ext. 1159
- 19 IMH, "Psychoanalysis," Vsevolod Sadovnikoff, MD, 464-2149
- 20 IMH, "Difficult Case Conference," Robert Massouda, MD, 464-2013
- 20 General Hosp., "Neuropathological Conference," Thomas D. Sabin, MD
and Srecko Pogacar, MD, 464-3493
- 26 RIH, "Teaching Seminar/Psychiatry," Andrew E. Slaby, MD; Richard
Goldberg, MD; Stephanie LaFarge, 277-8455

OCTOBER (continued)

- 27 IMH, "The Lonely Role of the Night-Time Physician," 464-2113
- 27-28 RIH, "Trauma Concepts 1983: Pediatric and Adult," 277-4768
- 28-29 Brown University, "Conference on Major Findings of the National Research Study on Hospice Care Conducted by Brown Univ.," 863-3337
- 31 General Hosp., "Significance of Functional Assessment in Geriatric Medicine," Peter B. Himmel, MD, 464-3493

NOVEMBER

- 1 St. Joseph's Hosp., "Hematology," Anthony Testa, MD, 456-3000
- 2 Roger Williams General Hospital, "Maurice N. Kay Pediatric Symposium," 456-2350
- 2 IMH, "Psychophysiological GI Reaction," Alfredo Cassiet, MD, 464-2149
- 3 IMH, "Difficult Case Conference," Won I. Choi, MD, 464-2013
- 7 General Hosp., "Surgery in the Elderly," Martin E. Felder, MD, 464-3493
- 8 General Hosp., "Psycho-Geriatric Case Presentation," A.U. Napoli, MD and Hugo Taussig, MD, 464-3493
- 9 Brown University, RI Department of Health, and RIMS, "Annual CME Conference on Health Promotion and Disease Prevention," 863-3337
- 10 IMH, "Quality Assurance," Briand Joyal, 464-2113
- 14 General Hosp., "Perspectives in Artherosclerosis," Peter Herbert, MD
- 16 Newport Hospital, "New Approaches to the Treatment of COPD," Jack Faling, MD, 846-6400, ext. 1159
- 16 IMH, "Generic Administration," John Karkalas, MD, 464-2149
- 17 IMH, "Difficult Case Conference," Max Faintych, MD, 464-2013
- 21 General Hosp., "Diagnosis & Treatment of Pneumonias in the Elderly," Jean Ashba, MD, 464-3493
- 21 Woonsocket Hospital, "Renal Complications in Hypertension," Robert Goldszer, MD, 767-3211, ext. 2311
- 30 IMH, "Law and Ethics," John Karkalas, MD, 464-2149

DECEMBER

- 1 IMH, "Difficult Case Conference," Constantine Loures, MD, 464-2013
- 1-2 RIH and American College of Surgeons, "Advanced Trauma Life Support Course," Pardon Kenney, MD, 277-8333

DECEMBER (continued)

- 3 General Hosp., "Psycho-Geriatric Case Presentation," A. Androvic, MD and A. Suvari, MD, 464-3493
- 5 General Hosp., "GI Disorders in the Elderly," Herbert Rakatansky, MD, 464-3493
- 6 St. Joseph's Hospital, Providence Unit, "Current Orthopedic Procedures," A.L. Mariorenzi, MD, 456-3000
- 8 IMH, "The Direct Link between IMH and Community Agencies," 464-2113
- 8 RIH, "Cardiology Update," speakers to be announced, 277-4768
- 14 IMH, "Overview on Schizophrenia," Geronimo Torres, MD, 464-2149
- 15 IMH, "Difficult Case Conference," Ronald Stewart, MD, 464-2013
- 19 General Hosp., "Ethical and Medical Considerations in Life-Sustaining Treatment: Implications for Legislation," Hugo Taussig, MD
- 19 Woonsocket Hospital, "Antiemetics in Chemotherapy," Marc B. Garnick, MD, 767-3211, ext. 2311
- 28 IMH, "Conduct Disorders," Martin Bauermeister, MD, PhD, 464-2149
- 29 IMH, "Difficult Case Conference," John Melchionna, MD, 464-2013

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Brown University Program in Medicine (Butler Hospital): Third Thursday of the month, September through May, "Academic Grand Rounds in Psychiatry"; third Monday of the Month, "Neuroscience Seminars," VA Medical Center; call Butler Hospital at 456-3700 for additional information.

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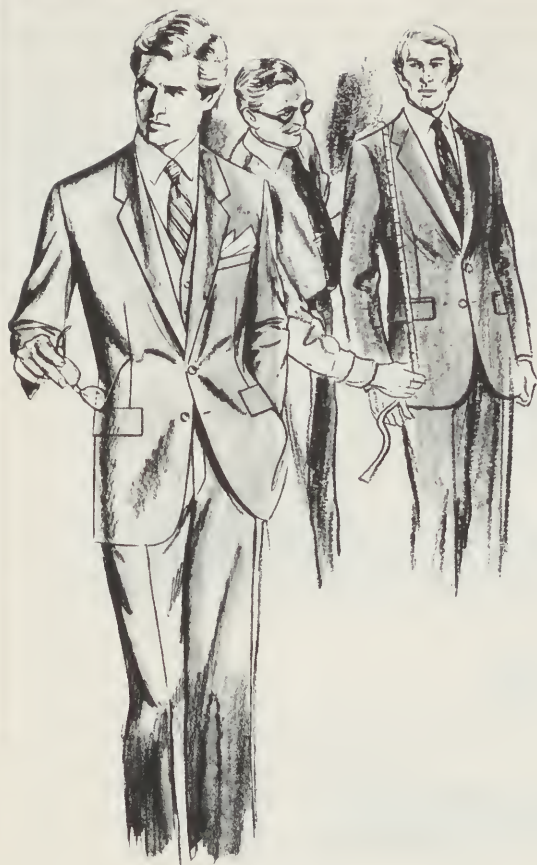
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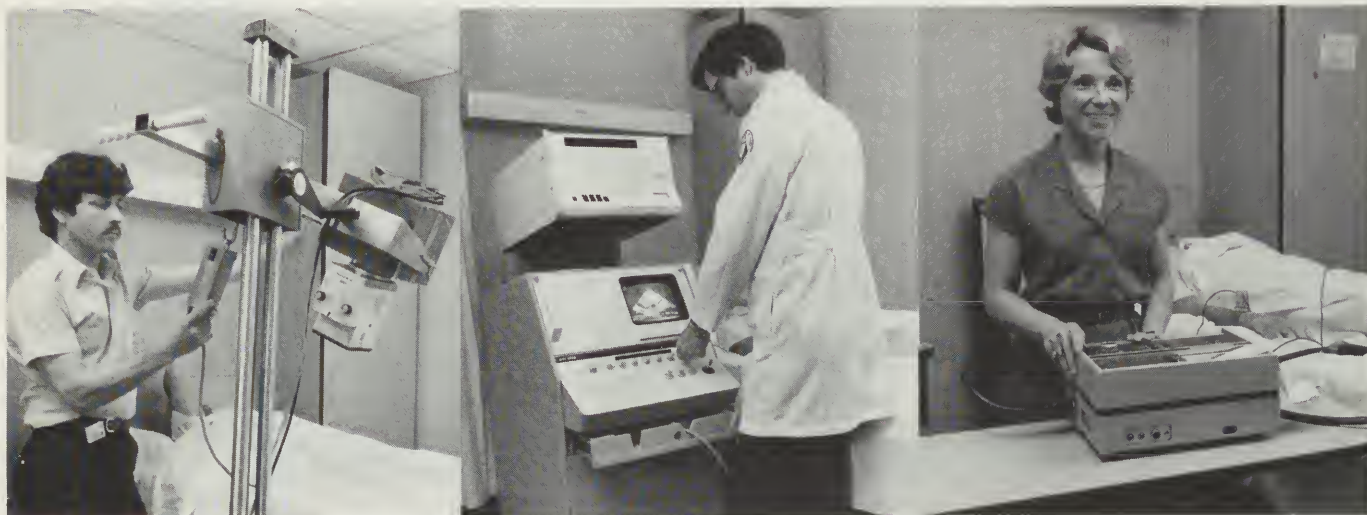
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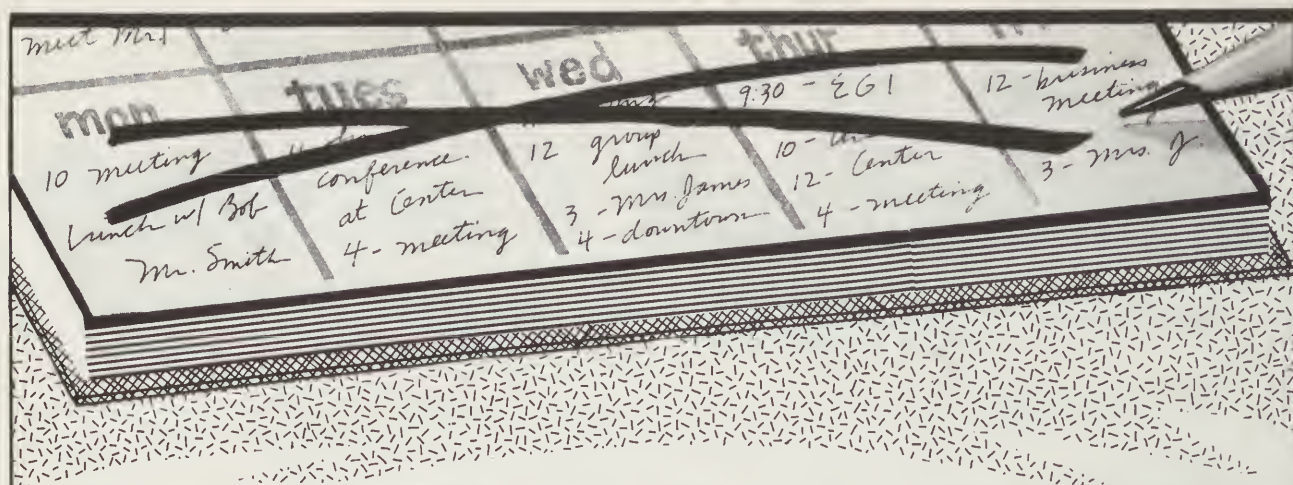
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A view of Front Campus and Manning Chapel at Brown University. For more on the relationship between town and gown, see page 285.



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DRGs and You

Hospital reimbursement by DRGs (Diagnosis Related Groups) for services rendered to Medicare patients will be phased in over a three-year period beginning in fiscal year 1984 (i.e., beginning in October 1983). This momentous happening has monopolized the headlines in the medical press and has been a cause of much concern to hospital administrators. But it is by no means the only game in town. Much in the minds of Washington legislators is the goal sooner or later of applying this mechanism to physician reimbursement.

DRGs have an insidious appeal to legislators as a potential means of containing costs. It has been stated that remarkably few legislators were actually involved in drafting the legislation, while the professional staff made most of the key decisions. This characteristic pattern is likely to continue to prevail with future important decisions manipulated by bureaucratic professionals.

Congress has directed the Department of Health and Human Services (DHHS) to study the possibility of paying doctors in the future for Medicare Part B services under a plan based on DRG classifications. DHHS must report its findings by 1985 on the "advisability and feasibility" of paying physicians by this method and must also recommend implementing legislation. This directive strongly suggests that Congress has a bias toward this mechanism of reimbursement for physicians.

The exact form of such legislation would be

difficult to predict at this time. It has been suggested that, initially at least, it may apply to hospitalized patients only. This would be less difficult to formulate than payment for out-patient services and could also be involved in a phasing-in process as in hospital reimbursement. Another concept floating around is that of providing one lump sum for each hospital admission. Out of this one bolus the hospital and all of the attending physicians and consultants would be paid. This suggests the unpleasant prospect of hospital and staff facing an abrasive adversary relationship over how to divide up the pie.

During a recent visit to Providence, AMA President Doctor Frank J. Jirka, Jr. was asked whether the AMA had a position on physician reimbursement based on DRGs. Doctor Jirka's laconic response was, "Yes, the AMA has a position." He then implied that it was AMA intervention that induced Congress to delay further consideration of this controversial matter until 1985.

It is evident that the AMA was not very successful in persuading Congress to postpone action on the DRG hospital proposal until sufficient experience had been provided. This does not encourage optimism for further delay in the march toward implementation of the physician program. The year 1985 is only a year and a half away. Hold on to your hats!

Seebert J. Goldowsky, MD

The AMA/GTE Telenet Medical Information Network

In late 1981, the American Medical Association signed an agreement with General Telephone and Electronics (GTE) to develop a computerized medical information network which would provide practicing physicians with easy access to computerized clinical and practice information. The purpose of the program is to provide both physicians and hospitals with reliable and current in-

formation which would be difficult to retrieve manually. Under a typical arrangement, the subscriber is responsible for providing the computer hardware, and many systems already are compatible with the AMA computer programs.

The AMA/GTE Telenet Medical Information Network is being developed in stages. The following services presently are available:

Drug Information: The drug information base contains up-to-date and unbiased information on the clinical use of drugs. More than 1,500 individual drug preparations marketed under 5,000 trade names in the United States, Canada, and Mexico are described in detail. In addition to comprehensive information about each drug, the system also provides references on indications for therapy, special patient circumstances, and possible drug actions and interactions. The drug information network will be expanded to include drug alerts, bulletins about new products, dosage algorithms, and a method of reporting adverse drug reactions.

Disease information: The disease information base includes current, concise descriptions of diseases, disorders, and conditions. The salient diagnostic features of more than 3,500 identifiable diseases are summarized in a systematic manner, using standard terminology. The disease base is organized in such a way that physicians can request information on a specific disease in its entirety or for certain categories under the disease listing. Future plans call for the disease information base to include laboratory data, information to help physicians establish diagnoses, and public health alerts.

Educational services: The system now includes a comprehensive calendar of continuing medical education activities and detailed information about AMA-sponsored meetings. It is also scheduled to include computer programs for patient education and self-assessment programs for physicians.

Business and professional services: Under the MED/MAIL® electronic mail system, subscribers now

can read, send, and file messages electronically. The data base will be expanded to help physicians file insurance claims and receive payments from third-party insurers through the computer. This electronic payment method, known as "paperless claims processing," has been used successfully on a trial basis in several areas of the country.

General medical information: The system currently provides access to more than 6,000 current procedural terminology (CPT) codes and to two bibliographic data bases. The Socio/Economic Bibliographic Information Base® cites current articles and other references from more than 700 sources on the non-clinical aspects of medical practice, including economics, education, legislation, and public health. A recent addition to the system, called the Excerpta Medica Physician Information Retrieval and Education Service (EMPIRES), allows access to citations from nearly 300 clinical journals. Abstracts are provided for most citations, and approximately 50,000 new entries will be added to the system each year.

Later this year, the Rhode Island Medical Society will acquire an in-house computer, primarily for internal administrative purposes such as dues billing, membership record maintenance, and administration of the Blue Cross/Blue Shield program. Discussions have been in progress with representatives of the AMA/GTE Telenet Medical Information Network to provide such services in the Medical Society Library. Individual physicians and groups also have the option of purchasing the necessary equipment and the AMA/GTE programs for their office use.

Wendy J. Smith





Building an Agenda for the Next Year

As the Medical Society begins a new year under a newly-elected president, I would like to report to you where we have been and where we are going.

As for the organization itself, the Medical Society is seemingly sounder than ever. Thanks to our Executive Director and past officers we have accomplished the following:

1. We have balanced our budget through increased dues and internal economies.
2. We shall convert the Cooper property, abutting the Medical Society building [and acquired some years ago], into an income-producing asset.
3. We have approved the formation of an Executive Committee of the Council and have eliminated many inactive committees, thus streamlining our activities.
4. We have established an affiliated foundation which will permit tax-free donations for Society-sponsored projects and permit monies from other foundations to be utilized.
5. We have computerized our office records and billing, including dues and Blue Cross and Blue Shield premiums.

As a result of these improvements in the Society's internal structure, it is better prepared than ever to concentrate on external issues.

Looking ahead we can anticipate that more of our energy will be directed to political issues. No physician need to be reminded that, as a result of issues related to Medicare, peer review, malpractice legislation, workman's compensation, abortion, definition of death, right to die, and many others, the Society has become more involved in political affairs.

An issue of ever-growing importance is the cost of medical care. Governor J. Joseph Garrahy, faced with having to pay approximately \$2,000 per state employee for medical coverage, has sought the Society's help in finding ways to control these costs. Other states faced with a similar



Charles P. Shoemaker, Jr., MD

problem have formed coalitions with labor, business, and the health care providers in an effort to accomplish this goal.

A spin-off of this effort has been the recognition by "consumers" that malpractice costs are inflating overall medical costs. With the broad-based support of the coalitions, many states are accelerating their efforts toward tort reform. We should not invent a malpractice "crisis." We are obliged, however, to examine the latest information and to learn from trends in neighboring states. If, after critical examination, we find ourselves on the road to self-destruction, we must seek legislative reform.

Our strategy must be carefully planned. The Society has been effective and credible on many legislative issues, but in the case of malpractice legislative reform it would be unrealistic for the Society to attempt to go it alone. It would be wise

(Continued on page 284)



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LEGISLATIVE UPDATE

General Assembly Adjourns in May

During a four-month long session which ended on May 13, the 1983 Rhode Island General Assembly considered more than 200 health-related bills. If passed, many of them would have had substantial impact on Rhode Island physicians and their patients.

Under the leadership of Doctor Peter D. T. Clarisse, the Public Laws Committee reviewed most of these proposals and forwarded its recommendations to the officers of the Society. During the review process, the Committee often consulted those specialty societies with a particular interest in a bill. For example, specialists especially affected by the 1982 revisions of the worker's compensation legislation — neurosurgeons, orthopedic surgeons, plastic surgeons, and emergency room physicians — were heavily involved in an attempt by the Society to seek remedial legislation. Local members of the American Academy of Pediatrics and the American Psychiatric Association frequently were consulted about bills dealing with children and confidentiality-related issues.

The officers then reviewed the proposed testimony and selected the person most qualified to present it. This was accomplished under considerable time pressures as legislative hearings frequently were convened on less than 24 hours' notice.

Bills of particular interest to the Society include:

Worker's compensation: Senate Bill 512 was introduced at the Society's request to reverse the impact of 1982 legislation which links physician reimbursement for worker's compensation cases to the Medicare fee schedule.

The bill encountered substantial legislative obstacles almost from the day of its introduction. In response to pressures from the business community, the Senate Labor Committee amended the proposal to pay 140 per cent of the Medicare fee schedule. The bill was further revised on the

Senate floor to 130 per cent of the fee schedule, and a delinquent payment provision was reduced from a 10 per cent penalty for medical bills not paid within 30 days to one per cent after 60 days. After heated floor debate, the Senate passed this version and sent it to the House. The House leadership and House Labor Committee, however, failed to act on the bill despite intense lobbying by the medical community.

Limited licensure: As originally introduced, House Bill 5705 would have permitted limited licenses to be granted to fulltime medical school faculty members by virtue of their academic appointments with an unlimited number of annual renewals. Until this legislation, limited licenses were granted only to residents and fellows who do not meet the qualifications for unrestricted licensure.

Society President Doctor Melvin D. Hoffman said in testimony before the House Health, Education, and Welfare Committee that the bill as drafted would, in effect, permit faculty members to bypass the strict educational and citizenship requirements for full licensure. He encouraged the House committee to limit the number of renewals permitted under the legislation. The bill as amended permits a maximum of five annual renewals.

A related bill, which would have extended the authority of the Board of Medical Review to regulate physicians with limited licenses, died in committee. Both the Society and the Board originally supported the proposal, but withdrew the measure after the Department of Health pointed out problems with the way the bill had been drafted. It will be resubmitted in 1984.

Confidentiality: Because of the controversy surrounding the events which occurred at the Rhode Island Rape Crisis Center at the start of the legislative session, confidentiality-related issues were hotly debated this year. Four bills from both chambers were introduced which would have

tentially modified the state's existing statutes on confidentiality of medical records. Senate Bill 590, submitted by Senator John Revens (D., Warwick) and drafted by the Rhode Island Bar Association, would have permitted the release of confidential medical information for numerous administrative and legal proceedings. As the result of testimony from Doctors Melvin D. Hoffman, Michael Ingall, Robert Westlake, and Hugo Taussig, the Senate Judiciary Committee refused to act on the bill.

In related actions, the General Assembly killed legislation which would have expanded the definition of health care providers to include rape crisis centers under existing confidentiality statutes and would have extended absolute confidentiality to all communication between rape victims and center counselors. The lawmakers, however, did create a commission to study the issue of "privileged communications," including both relationships between physicians and their patients and discussions between lawyers and their clients. As the result of testimony from Doctor Ingall, one of the four public members to be appointed to the commission must be a psychiatrist.

"Baby Doe" Legislation: In a last-minute move, the General Assembly approved a controversial proposal which makes notification of the Department of Children and Their Families mandatory if parents of a handicapped infant or child have requested any deprivation of nutrition or "necessary medical or surgical treatment." Both the Society and the Rhode Island Chapter of the American Academy of Pediatrics objected to the bill as an unwarranted government intrusion into situations with complex medical and family ramifications. Governor Garrahy has signed the bill.

Hospital costs: Another bill which received considerable attention this year was the "Health Care Affordability Act of 1983," which would have established a maximum total limitation (known as a "con-cap") on all health facility capital projects currently reviewed by the Health Services Council. The proposed legislation stemmed from a report of a legislative commission, chaired by Representative Anthony J. Carcieri (D., Warwick), which was organized last year in response to reports that area hospitals planned capital projects totaling \$109 million.

Under the bill, all "certificate-of-need" (CON) requests would be batched together and assigned priority ratings. Projects could be approved only if they did not exceed a total dollar limitation —

based on a concept of "affordability" — established by the State Budget Office, Hospital Association of Rhode Island, and Blue Cross/Blue Shield. For the first time, CON requests would not be judged on the merits of the individual project as the sole criterion. Instead, they would be measured against a yardstick of "affordability" in comparison to other projects.

While the House approved the bill, the Senate refused to act on it and instead the commission responsible for the legislation was extended until 1984.

In other actions on health-related bills, the General Assembly approved legislation in the following areas:

Public Health and Safety

- provides for the emergency treatment of drug-intoxicated patients
- provides for the continued development of "comprehensive and minimum standards" for emergency medical services, clarifies licensure requirements for emergency medical technicians, and defines the functions of the Ambulance Service Coordinating Board
- strengthens penalties for driving while intoxicated
- broadens the class of persons who can be prosecuted for child abuse
- enacts criminal penalties for the adulteration of products consumed by the public
- creates a "hazardous substance" right-to-know act and requires employers to maintain lists of all hazardous substances to which employees are exposed

Insurance and Reimbursement

- includes the cost of liver transplantations under the state's Catastrophic Health Insurance Program
- requires insurance carriers to pay for second opinions for elective surgery
- provides a mechanism facilitating the establishment of health maintenance organizations (HMOs) and extends the authority of the Departments of Health and Business Regulation over HMOs
- prohibits health insurers from providing coverage for voluntary abortions unless there is a separate rider with an additional premium attached to the policy

Allied health providers

- requires screening examinations for scoliosis

(Continued on page 288)

SPECIAL REPORT

The Rhode Island Medical Society Foundation: A Necessary Step Forward

Norman A. Baxter, PhD

On April 15, 1983, the Rhode Island Medical Society (RIMS) sent a form to the Internal Revenue Service. While this was not an unusual activity on a date familiar to all taxpayers, this filing was different. The Society applied for IRS recognition of a new organization, the Rhode Island Medical Society Foundation, as a tax-exempt foundation, created to "promote health and welfare in the community by engaging in charitable, educational, and scientific activities related to the field of medicine." In IRS terminology, it was a request to designate the Foundation as a 501(c)(3) organization under the Internal Revenue Code.

Why was this done? Was it necessary? Why create another organization to manage? These are legitimate questions which I hope to address in this report.

The Society was incorporated in February 1812 with a provision that its personal property "be exempt from taxation." The stipulation was moot at the time since the Society existed for more than 100 years before the establishment of the IRS in 1916. As the IRS began to classify organizations, the Society and other professional associations were treated as 501(c)(6) corporations under the Internal Revenue Code. A 501(c)(6) corporation is a tax-exempt entity organized for the "improvement of business conditions." It may lobby for legislation to improve conditions under which it functions. The Internal Revenue Code refers to 501(c)(6) organizations as "business leagues," and they are commonly called "trade associations." Members sup-

port them through dues which are tax-deductible as business expenses. Contributions are not tax-deductible.

Under the 1954 Internal Revenue Code, a 501(c)(3) organization is defined as one established for "religious, educational, charitable, and scientific" purposes. It may engage in any activities which support these purposes, other than lobbying, and donors may deduct their contributions. Most universities and philanthropic foundations exist under this code designation. The new Rhode Island Medical Society Foundation, after IRS approval, will be a 501(c)(3) organization.

The officers and Council established a foundation because it will broaden and strengthen the ability of the Society to pursue educational activities in the broadest sense. It also will help resolve the confusion which sometimes emerges as a result of the Society's multiple functions. Is the Society a political enterprise which attempts to influence legislation? Is it an educational entity, maintaining a library for its members and the public? Is it a scientific organization as demonstrated by its involvement with continuing medical education? Or is it a combination of all three and more?

The Bylaws specify that the objectives of the Society are "to promote the science and art of medicine and the betterment of public health, to promote friendly intercourse among physicians, and to enlighten and direct public opinion in regard to the problems of medicine." To meet these varied objectives, the Society indeed may act in different ways, some of which, such as lobbying, are consistent with a 501(c)(6) designation. Other activities, such as scientific and charitable pursuits, are more compatible with a 501(c)(3) status.

As social demands and perceptions of medicine have changed in recent years, however, medical associations have acted in ways not previously

The Internal Revenue Service approved designation of the Rhode Island Medical Society Foundation as a 501(c)(3) organization on June 8, 1983.

Norman A. Baxter, PhD, is Executive Director of the Rhode Island Medical Society.

considered necessary or appropriate. This is the primary reason for increased legislative activity by the American Medical Association on the national scene and by the Society on the state level. There is every indication that this trend will increase.

Concurrently, the capacity of modern medicine to educate has been enhanced by improved technological and communication mechanisms. The GTE-AMA Telenet is the most recent achievement in a long series of advances which organized medicine can adapt and use to "enlighten and direct public opinion." It is likely that these two threads of legislative pressures and educational responsibilities will continue to be intertwined in the activities of modern medical societies.

The Internal Revenue Code requires that funding sources for these two activities be handled separately. As a result, most medical societies have found it advantageous to create 501(c)(3) foundations. A good example occurred in Pennsylvania where in 1954 the Andrew W. Mellon Foundation of Pittsburgh wished to make funds available to improve the state's public health. The Pennsylvania Medical Society, as a 501(c)(6) "business league," could not receive these funds. However, it created a 501(c)(3) foundation, the Educational and Scientific Trust of the Pennsylvania Medical Society, which could and did receive the Mellon contributions and used them for public health projects.

Closer to home, a similar situation existed in the mid-1960s when the campaign to eliminate polio through the Sabin vaccine ended in Rhode Island. The funds left over from this effort were donated through a "deed of gift" to the Rhode Island Hospital Trust Company as the trustee for the Rhode Island Foundation. Until recently, the Rhode Island Foundation referred specifically to the source of this fund in its annual report and sought the Society's advice about appropriate disbursements. A 501(c)(3) foundation of the Society, had one existed at the time, would have been a logical recipient of such funds since they were intended for the "betterment of public health."

Another example of the need for a 501(c)(3) foundation involves potential funding sources for the library. Currently the Society funds the library from its operating budget. As the result of inflation and the information explosion, it has become more and more difficult to keep the library collection up-to-date. Philanthropic organizations, such as the Rhode Island Foundation, have difficulty justifying contributions to the li-

brary since it is the library of a "business league" and not a strictly educational entity, such as the Providence Public Library, the John Carter Brown Library, or the Rhode Island Historical Society. Mrs. Helen DeJong, the Society's librarian from 1930 to 1975, had similar problems when the Society sought funds from the National Library of Medicine (NLM). Although she was partially successful, the NLM had difficulty in distinguishing between the Society as a medical library and the Society as a "business league." A medical society foundation would have provided a simple, easy-to-use vehicle for receiving contributions and grants for the library. Now, either monetary contributions or books may be donated to the foundation as tax-deductible gifts.

A common activity among medical society foundations is to provide financial aid for medical students. The need for such aid can hardly be denied with tuition expenses at some medical schools now above \$15,000 per year. The only way to provide scholarships and educational grants from the Society at the present time is through the Auxiliary of the Society. For many years, the Auxiliary in Rhode Island has made grants to one or two medical students each year. When the Brown University Program in Medicine started, it received state funds in part because the program would admit Rhode Island residents. The state grant, however, is made directly to the University and is not a scholarship fund for individual Rhode Island residents.

A foundation mechanism will let us solicit scholarship funds from physicians and others to help medical students. These funds from the private sector will become essential as federal sources of student financial aid decrease. Other state medical societies are either establishing or reactivating their foundations for this purpose. Rhode Island now is taking its appropriate place with others in this effort.

A final example of the need for a foundation is the raising and distribution of funds for charitable purposes. For many years, the Society has maintained a Benevolence Fund which solicits membership contributions to help needy physicians and their families. In addition, the Benevolence Fund, upon the recommendation of the standing Committee on Impaired Physicians, offers loans to impaired physicians for their rehabilitation programs. If Rhode Island follows national trends, identified needs in this area will increase, and the Society, through its foundation,

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Subdural Hematomas in Subteens

A Subteen Child with Mild to Moderate Trauma to the Head Is Unlikely to Develop a Subdural Collection

Thomas C. McOsker, MD

The prognosis of children with head injuries is a source of concern to physicians and parents alike. In 1973, records at the Rhode Island Hospital from 1966 to 1973 were searched in cases of children aged 2 to 14 years who had subdural hematomas as a result of trauma.¹ Obvious severe massive injuries including bone and brain were not included. No subdural hematoma from a proximate injury was found in the age group of 3 to 11 years.

A review of the literature covering the past ten years has failed to reveal any report directed specifically at this age group. Ohaegbulam in 1981 reported on 132 cases of subacute and chronic subdural hematomas. Thirteen patients were under 10 years of age and thirteen were between the ages of 10 and 19 years.² Similarly, Talalla in 1971 in reviewing 100 acute cases found four below the age of 10 years, and five between the ages of 10 and 19 years.³ Fell reviewed 144 cases of subdural hematoma and found 15 cases under the age of 10 years, and 16 between the ages of 10 and 20 years.⁴ Jamieson in Australia found 533 subdural hematomas in 11,000 cases. Thirty-two were in the less than one year to 10 years age group and 68 in the 11 to 20 year age group.⁵ Guthkelch in 1971 reviewed 23 assaulted children under the age of 3 and found that 57 per cent had subdural bleeding. Six of these had subdural hematomas and five had no obvious head injury. He attributed the pathology to violent shaking of these children.⁶

CT scanning has been available at Rhode Island Hospital since April 1977 and an academic

pediatric service since July 1973. Pediatric admissions for all ages and causes have doubled since 1973 to 2,300 per year. The records of children up to 12 years of age with intracranial bleeding of any type admitted to Rhode Island Hospital between 1973 and 1982 were recently reviewed. It was necessary to analyze this more comprehensive group because of classifications available in the current filing system.

Sixty-four cases were reviewed. Forty-seven of these proved to be intracranial bleeding from a variety of causes. Most were children two years old or younger, hydrocephalic children with or without ventricular shunts, and those with subarachnoid hemorrhages. In other words, the bleeding was not due to trauma or the children were too young.

Seventeen cases were reviewed in detail because trauma was the cause of the bleeding. There were eight epidural hematomas, a condition not included in my first study.¹ All but one of these had fractures, were operated upon early, and recovered. One 5-year-old, KG, was struck by a car and suffered no loss of consciousness. The child appeared well for two days, when an epidural hematoma was found by an echoencephalogram. After drainage he recovered uneventfully.

There were six children with acute subdural collections, also a condition not reviewed in my first study.¹ Four died from massive injury following motor vehicle accidents. A 10-year-old with immediate unconsciousness after a bicycle accident deteriorated 24 hours later and was found to have a small subdural hematoma in the posterior fossa and a herniated cerebellum. This child died. One 4-year-old child, who was struck by a car, became decerebrate in the emergency room and had immediate successful removal of a left subdural hygroma. An underlying contused brain was noted. Another 4-year-old was transferred immediately from another hospital after he had deteriorated in the emergency room

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there. He was decerebrate and had a posterior fossa fracture. Immediate operation revealed a left parietal subdural hygroma and a contused brain. He had an uneventful course. One patient had delayed symptoms after an obvious initial severe injury. MD was a 4-year-old transferred from another hospital after a motor vehicle accident. The patient was unconscious and had a large left pupil. An original CT scan was thought to be normal, but a CT scan repeated the next day showed a rim of subdural accumulation and a questionable thalamic hemorrhage. On the 7th day, a small subdural hygroma was drained, and there was a good result.

The most important case in the context of this report, because it appears to be exceptional, is AG, 11 years old, who struck his head on frozen ground without loss of consciousness five weeks before admission. Five days before admission he developed worsening headache. Migraine was present in his family. This was suspected to be the cause, since there was little to be found on neurological examination. A CT scan, however, revealed a large left fronto-temporal mass which proved at craniotomy to be hygroma. After operation there was still CT scan evidence of a subdural collection for several weeks, but this was finally reabsorbed.

305 Hope Street
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HAVE YOU HEARD? . . .

Medicom of Va., Inc. recently announced the development of computer software which reportedly diagnoses medical conditions with the sophistication of a human physician. The system, which was developed in cooperation with physician specialists from teaching hospitals in New York and Washington, DC, is expected to benefit teaching hospitals, overworked physicians, and communities with doctor shortages.

The software program features an elaborately constructed database and analytical programs. More than 2,000 diseases covering every category in internal medicine are described by 800 symptoms, 2,200 physical findings, 700 tests, and history of more than 300 generic drugs. Risk factors, such as personal habits, environmental exposure, and travel, also are considered. Each item in the database was assigned weighted points based on

Comment

A subteen-age child presenting in the office of a physician or an emergency room with evidence of only moderate trauma to the head typically is unlikely to develop the serious intracranial complication of subdural collection. The condition is much more likely in even slightly traumatized children under the age of three.

The case of the 5-year-old who was found to have an epidural hematoma two days after he was injured appears to be unusual. He did, however, have a skull fracture typical of that almost always seen with epidural hematomas.

The 11-year-old boy was the only child in the 3- to 12-year-old group with an apparently mild head injury who developed a subdural collection.

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its importance in each disease. To produce a diagnosis, the program assigns a certain number of points to each disease whose characteristics match items in the patient's record. After the computer has compared every finding in the patient's record against its disease database, it prints a list of probable diagnoses. The highest-scoring probability is ranked first on the list.

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Biogen, a Swiss research and development company specializing in recombinant DNA and advanced mutational techniques, recently announced the shipment of its first commercial product, hepatitis B antigen, produced through recombinant DNA technology. The purchaser

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Attitudes Toward Pelvic Examinations in Two Primary Care Settings

Pelvic Examinations Are Tolerated, But Not With Enthusiasm

Duane Golomb, MD

The examination of the female pelvis is a part of the physical examination that may be anxiety-provoking to both patient and examiner. For the physician, attempts have been made to increase comfort with and improve performance of the examination (exam) of the pelvis mainly through teaching methods. Kretzschmar introduced the use of professional patient-instructors to teach sophomore medical students the gynecologic exam.¹ At Pennsylvania State University, first-year students have been given the opportunity to practice the pelvic exam on cadavers during their gross anatomy course.² Schneidman reported from one center that male medical students provided female partners to be used as subjects for teaching the pelvic exam.³ In the same center, female students used one another as subjects for teaching. Special emphasis was placed on using effective communication skills to reassure and relax the patient. In exploring the psychological aspects, Buchwald reported on the six most common concerns and fears expressed by third-year obstetrics-gynecology clerks during weekly small-group meetings.⁴

Other writers have looked more closely at the patient's reaction to pelvic exams and at how to decrease patient discomfort and anxiety. Using a questionnaire technique, Osofsky found that most women rate the palpation of the ovaries and the rectovaginal examination to be the most painful parts of the gynecologic exam.⁵ Speculum insertion and bimanual examination were rated as least painful. It was recommended that the examiner be especially sensitive and gentle dur-

ing those portions of the exam found to elicit the most discomfort. Magee, in a personalized approach, put forth several recommendations intended to make pelvic exams more bearable for the patient.⁶ For example, it was recommended that the patient and physician be introduced before the patient assumes the lithotomy position. Talking to the patient during the exam to warn her of what to expect was another suggestion. Schwartz added that the patient should be allowed to sit up slightly during the exam to allow her to be in a more equalizing position with the examiner.⁷

At the University of Washington, Womack studied the attitudes of black and white patients toward black and white examiners.⁸ It was found that white women reported equal comfort with black or white gynecologists. Black women, however, reported significantly less comfort with black gynecologists. Regardless of any racial implications, these data alert us to the sensitivity of the patient not only to the examination, but also to the person doing the examination.

This study explores the attitudes of women toward having an additional person besides the examiner present in the room during a pelvic exam. It also looks at the preferences of women toward the sex of the person who will perform their pelvic exam.

Methods

Two centers were used as a source of subjects for this study. The first center was the private office of a male family physician in North Scituate, Rhode Island. North Scituate is a rural community about ten miles west of Providence. The second center was the Family Care Center (FCC) of Memorial Hospital in Pawtucket, Rhode Island. The FCC is a model practice staffed by the family medicine residents at the hospital. It is run like a private office, accepting fee-for-service or

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third-party payments for the services provided. Pawtucket is a small city north of Providence.

At the two centers, questionnaires were given to women 18 years of age or older during the third and fourth weeks of August 1982. The 19-item questionnaire consists of three parts. The first part asks for demographic data. The second part deals with previous experiences with pelvic exams. The third section asks about preferences for the future in terms of having others present in the room during the exam, having a male or female examiner, and about how patients feel about pelvic exams in general.

Table 1 — Demographic Data

	Private Office	Family Care Center
Number of questionnaires	43	18
Mean age	42.1	29
Age range	18-74	19-67
Religion		
Protestant	23 (53%)	3 (18%)
Catholic	17 (40%)	14 (78%)
Atheist	1 (2%)	0 (0%)
Other	0 (0%)	0 (0%)
No response	2 (5%)	1 (6%)
Income		
\$0-\$5,000	10 (23%)	7 (39%)
5,000-10,000	10 (23%)	5 (28%)
10,000-20,000	13 (30%)	5 (10%)
20,000-30,000	4 (9%)	0 (0%)
30,000 +	1 (2%)	1 (6%)
No response	5 (12%)	3 (17%)
Marital Status		
Single	7 (16%)	2 (11%)
Married	28 (65%)	10 (56%)
Widowed	5 (12%)	6 (33%)
Separated/Divorced	3 (7%)	0 (0%)

The questionnaire was given to women coming to the centers for their usual care, and not just to women scheduled for a gynecologic exam. Both centers are primary care facilities serving patients of all ages.

At the private office, 43 questionnaires were completed while seven patients refused to participate. At the Family Care Center, 18 questionnaires were completed with two refusals.

Results

Demographic data — The mean age at the private office was higher than that at the FCC (42.1 compared to 29) (Table 1). At the private office the religious preference was roughly half Protestant and half Catholic. At the FCC, 78 per cent were Catholic, while 18 per cent were Protestant.

The annual income level was higher among the private office patients. The largest group there (30 per cent) were in the \$10,000-20,000 category. At the Family Care Center, the largest group (39 per cent) reported their income as less than \$5,000.

The two groups were similar in terms of marital status.

Previous experience with pelvic exams — Of the private office group, three of the 43 questionnaire respondents had never had a pelvic exam (Table 2). At the FCC, all respondents had experienced at least one pelvic exam in the past.

Of the private office patients who had had pelvic exams previously, 95 per cent had been examined by a male and 26 per cent by a female. There was one patient who had been examined by a female, but never by a male. At the FCC, all subjects had been examined in the past by a male. Seventy-two per cent had also been examined by

Table 2 — Previous Experience With Pelvic Exams

	Private Office	Family Care Center
Never had a pelvic exam	3 (7%)	0 (0%)
Did have a pelvic in the past	40 (93%)	18 (100%)
Had a female examiner in the past	11 (28%)	13 (72%)
Had a male examiner in the past	38 (95%)	18 (100%)
Had a person other than the examiner in the room in the past		
Yes	21 (53%)	16 (89%)
No	16 (40%)	2 (11%)
No response	3 (7%)	0 (0%)

a female.

The subjects were questioned as to whether any person besides the examiner had ever been present in the room during previous pelvic exams. At the private office, 53 per cent responded "yes," while 40 per cent responded "no." At the FCC, 89 per cent responded "yes," while 11 per cent responded "no." Most subjects responding affirmatively noted that the third person present had been a nurse or an assistant.

Attitudes toward future pelvic exams — Asked if they would mind another person being in the room besides the examiner during future pelvic exams, significantly more of the private office patients responded "no, I do not mind" than "yes, I do mind" (70 per cent vs 25 per cent, $P < .01$) (Table 3). Similarly, significantly more FCC patients re-

sponded that they would not mind an additional person in the room during future pelvic exams (83 per cent vs 17 per cent, $P < .01$).

To the question of whether they would prefer an additional person to be present during future pelvic exams, significantly more of the private office patients responded "no" than "yes" (68 per cent vs 30 per cent, $P < .05$). At the FCC, an equal number responded "no" and "yes" (44 per cent each).

As to the preferred sex of future examiners, about 60 per cent of both groups indicated that they had no preference. Of the private office patients, 23 per cent would prefer a male examiner, while 16 per cent would prefer a female examiner. At the FCC, this was reversed, with six per cent preferring a male examiner and 33 per cent a female examiner.

When asked how they felt about pelvic exams, the two groups responded similarly. Thirty-five per cent of the private office patients, and 17 per cent of the FCC patients responded that they "do not mind them." Fifty-one per cent and 67 per cent, respectively, said they "do not like them, but they are not that bad." Nine per cent and 17 per cent, respectively, responded that they "hate pelvic exams."

Discussion

The subjects from the private office were older, more Protestant than Catholic, and more affluent. The private office is situated in a stable rural community with many families long in residence. The FCC is located in a city presently experiencing an influx of Spanish-speaking immigrants.

Both patient groups had extensive past experience with male examiners (private office — 95 per cent, FCC — 100 per cent). It was found that FCC subjects had about three times as much experience with female examiners as did the private office patients. Both female and male examiners work at the FCC, while there is a single male physician in the private office.

FCC patients also had more experience with additional people being in the room than did the private office patients. The FCC is a teaching center where medical students regularly rotate. While only a single FCC patient mentioned a medical student being present during past pelvic exams, many patients noted that a "nurse or assistant" had been present. Perhaps some of these "assistants" were actually students. In any case, in an instructional facility such as the FCC, there will

Table 3 — Attitudes Toward Future Pelvic Exams

	Private Office	Family Care Center
Would you mind additional people being in the room during future pelvic exams?		
No	30 (70%)	15 (83%)
Yes	11 (25%)	3 (17%)
No response	2 (5%)	0 (0%)
Would you prefer to have others in room in the future?		
Yes	13 (30%)	8 (44%)
No	29 (68%)	8 (44%)
No response	1 (2%)	2 (11%)
Prefer future exams by		
A male	10 (23%)	1 (6%)
A female	7 (16%)	6 (33%)
No preference	24 (56%)	11 (61%)
No response	2 (5%)	0 (0%)
How do you feel about pelvic exams?		
I do not mind them	15 (35%)	3 (17%)
I do not like them, but they are not that bad	22 (51%)	12 (67%)
I hate pelvic exams	4 (9%)	3 (17%)
No response	2 (5%)	0 (0%)

be more exam-room instruction and discussion among students, residents, and faculty than in a private physician's office.

Both patient groups responded that they would not mind having an additional person present in the room during future pelvic exams. The private office subjects as a group, however, responded that they did not prefer to have the extra person in the room, while the FCC patients as a group did not express a preference either way. This difference in preferences correlates with the past experiences of the two groups. The private office patients had less experience with chaperones and had less of a preference for them. The FCC patients had more experience with chaperones and were not negative toward them. This seems to indicate that patients obtain their care at the office that practices according to their preferences.

This is again borne out by the data concerning the sex of the examiner. The FCC had a stronger preference for female examiners and had more experience with them. The private office patients had more of a preference for male examiners, and had less experience with female examiners.

The final question of the survey deals with the patients' general attitude towards pelvic exams. The results of this question would probably correlate with the patients' satisfaction with the

gynecologic care they are receiving. The two groups responded similarly, although the data were not large enough to be statistically significant.

The similarity in attitude of the two groups toward pelvic exams appears to indicate that both groups are about equally satisfied with the care they receive. It is clear that the two groups receive different care — as measured by past experiences (Table 2) — but the two groups have different preferences for care, and thus both appear to be

receiving what they desire.

The implications of this appear to be that in general patients will receive their pelvic examinations in a site where it is done according to their preferences. Physicians should, however, be aware of those dissatisfied patients who responded that they “hate” pelvic exams. For these patients, the physician must try to remain sensitive to patient preferences in order to make the pelvic examination as comfortable as possible.

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The Memorial Hospital
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Special Report

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will be able to meet the financial needs of these physician members.

In short, the newly-formed Rhode Island Medical Society Foundation provides one major vehicle to address several needs. The Foundation is administered by five trustees, including the three immediate past presidents of the Society and the incumbent president and treasurer. The composition of the Board will assure all donors of the integrity of the Foundation's efforts to meet the financial needs of the Society's extended family. The Society is indebted to Doctor Melvin D. Hoffman, President of the Rhode Island Medical Society at the time the Foundation was created, and to others who have been instrumental in its establishment. The generous support of all members of the Society will enable the Foundation to fulfill its purpose of “promoting health and welfare in the community.”

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President's Page

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to follow the lead of other state societies which have joined with their governors, other purchasers of health insurance, and various health providers in seeking to reduce medical costs. Thus we may keep the secondary benefit of restraining rising malpractice costs.

A new-appointed committee on malpractice will be asked to study these issues and report to the Council in August and to the House of Delegates in September.

The Editor's Lament

The editor can run an efficient office, he can publish a journal on time, he can accept or reject material quickly, he can help with advertising and business management. But the editor can publish only the material that he receives. He is at the mercy of the members of the Society. If they write, he can publish; if they do not, he perishes.

Eugene A. Stead, Jr., MD

Editor

North Carolina Medical Journal

COMMENTARY

Institutional Prerogatives and The Private Practicing Physician: A Changing Partnership or The Development of Adversarial Roles?

Joseph A. Chazan, MD

As medicine approaches the mid-1980s, a variety of new problems affecting the practicing private physician has emerged. The purpose of this paper is to review some of the events which have taken place in Rhode Island during the past 15-20 years that have led to the situation in which we now find ourselves.

Twenty years ago, all Rhode Island hospitals were controlled by private practicing physicians. There was only one hospital with a large teaching program for house staff, and there were virtually no full-time academic physicians. As time progressed it became increasingly evident that a more "academic" approach would be necessary if hospitals were to provide continued high quality medical care and keep up with rapid technical advances. Interns, residents, fellows, and full-time leadership appeared to be necessary to enable the institutions to keep pace with the rapid changes occurring in medical education and scientific technology. Concurrently, Brown University embarked on a fledgling medical program and invited several hospitals to join in the program. Although the initial experiment was envisioned as a unifying one, competitive institutional chauvinism involving the university and the affiliated hospitals prevented a completely cooperative undertaking. As a result, most affiliated institutions have developed independent programs which are duplicative and frequently competitive, rather than complementary. Brown University, although ostensibly the leader of medical education, was unable to exercise, for whatever reasons, this unifying role, and could

only exert a modicum of control over the growth and development throughout the university affiliated hospitals. The original concept of "islands of excellence," although perhaps well-founded, was not practical and has not prevented the duplication of resources and the dilution of available talents throughout the community. Other forces throughout the state, such as the Rhode Island Department of Health and its advisory and planning agencies, along with Blue Cross, have also attempted to control growth and avoid duplication. Their role, however, has been one neither of leadership nor direction, but rather of obstructionism and delay.

As the years went on, medical and financial resources became more limited, institutions began to approach their potentials (some greater than others), in part related to their leadership, their previous resources and strengths, and the political expediency of the times. As we approach the mid-1980s, a major force, the federal government, which had been present and of some influence during the preceding years, is now becoming more important than ever in the decision-making process. Government is now more likely to dictate the changes that will occur over the next 10-20 years because of its control over finances of the university, private hospitals, and even private practitioners. The changes which have occurred during the past 20 years have resulted in increasing conflict and confrontation between private practitioners and the hospitals.

In the "good old days" (variously defined both in time and nature), hospitals in Rhode Island were generally good community hospitals, where staff members were primarily home grown and trained and where staff privileges depended as much upon who you were as upon what your qualifications were. This system was once controlled by private physicians in which younger physicians were required to observe quietly and wait their turn, ultimately to be rewarded as

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much for good behavior as for good performance. Tradition dictated that this was the way it had been in the past and the way it should be done in the future. The hospitals' goals, as is true today, were primarily to provide quality care to patients and to train young physicians who might stay in the community and join the staff. There were very few external forces which affected the ability of the institutions to set priorities, and resources were bountiful by present day standards.

As the "golden years" passed, hospitals in the community having interns and residents had increasing difficulty attracting quality house officers, because there was no medical school affiliation and there was a decreasing interest among medical students in the classic rotating internship. At this time, the university affiliation with full-time direction seemed desirable, and conveniently Brown University was developing a new medical school. Full-time physicians were recruited. The changes which occurred throughout the institutions as a result were subtle but definite, and the institutional priorities began to change from those of community hospitals controlled by private practitioners to university-affiliated hospitals where full-time department heads were also present to impose themselves upon the decision-making process. This transition was associated with variable amounts of disruption within individual institutions. As the number of full-time physicians increased, the competition for patients also increased. During this critical phase, when institutions were asking their staffs to develop a "group practice" which would serve the needs of patients who looked primarily to the hospital for its medical care, the private practitioners were unable to meet the challenge. Therefore, there was another need for more full-time personnel.

The Brown University Program in Medicine, by offering the MD degree, began to have a greater impact on the delivery of care. Very few private practitioners were being adversely affected by their full-time colleagues, and therefore little uproar occurred among the staffs. In addition to these changes, external forces began to have substantial impact on institutions, resulting in further encroachment on the ability of hospitals to expand and develop programs. These forces included a limitation on reimbursement, a growing struggle with the Brown University Program in Medicine over control of residency and fellowship programs, the restrictive behavior of the Rhode Island Department of Health and its Plan-

ning Council, and an increased demand for limited resources. In addition, full-time chiefs were hired who were somewhat less tolerant than their predecessors of the need for and the role of the private practitioner.

The institutions became increasingly aware of their limited resources and the impact of external forces on their day-to-day management. In addition, the prospect of litigation increasingly influenced medical practice, and institutional responsibility had to be more clearly defined. Individuals responsible to and employed by the hospital had to be in place so accountability could be unquestionably defined. It was now impossible for the private practicing physician to dominate the hospitals, especially since other professionals were seeking at least collegial, if not equal, representation within the hospital. It was now clear that some decisions which were in the best interest of the hospitals might not be in the best interest of the private practitioner. Faced with these challenges and external events, the institutions entered the 1980s. Now private practicing physicians were exposed to new threats and new vocabulary — commitment, five-year plans, limited staffs, limited resources, quality assurance, and retroactive determination of hospital needs. The private practicing physicians became more and more defensive, concerned about the infringements upon their individual rights and, once again, began questioning the future of the private practitioner in Rhode Island.

The hospitals and their boards of trustees have always had the responsibility and power to make decisions, and it is clear that these decisions should be made in the best interest of the various institutions. However, in today's world, a latitude available to the hospitals is limited (as evidence by a variety of decisions recently made in the community), and the federal government is having an even greater impact on the economics of the institutions. It should be apparent that no far-reaching decision adversely affecting the private practitioner needs to be reached in a precipitous or heavy-handed manner. Much more harm has occurred and will occur by hasty decisions that have not been exposed to broad discussion among the constituencies of the institutions than by more deliberate approaches which may well result in the same conclusions. By the same token, the private practitioner must realize that this is no longer a good "old-boys" club. The hospitals are not functioning to serve only the needs of the private practicing physician. The power of the practitioner, although great, is not as strong as it

once was. The individual institutions do not exist for the private practitioner, nor do they have direct responsibility to the practitioner other than to provide a place where the best medical care can be provided. I do not believe that the power structure of the various institutions is dedicated to or interested in undercutting or impairing the private practice of medicine, but in many instances it has failed to show sensitivity to the needs and feelings of practicing physicians.

Private practicing physicians have several courses available to them in these troubled times. One is to do nothing but stand on the sidelines and observe. Another is to continue to pursue a defensive, reactionary posture and assume that all decisions made by the hospital should be in the best interest of the private practicing physician. A third is to accept the fact that change is taking place and that we are still in this together. The hospitals are not the enemy, the Brown University Program in Medicine is not the enemy, and if there is an enemy, it is more likely to be external forces such as government and regulatory agencies. If we can accept a changing role, it is more likely that it will lie in blunting, delaying, or modifying such changes as do occur and any adverse effects they may have so that they are more palatable than in preventing them. All constituencies should be willing to accept some successes and some failures, but they should not be defined as victories or defeats, and they should never be

completely one-sided. All institutions are looking at their strengths and weaknesses and will have to come to grips with the fact that they cannot be all things to all people. They will not be able to continue all residencies. They will have to pick and choose among the major programs and improve and upgrade them as required in a systematic way. They will have to begin to break down the barriers and walls of institutional chauvinism. Their relationship with Brown University regarding postgraduate medical education remains to be worked out. The long-term impact of the federal government remains unknown, but it is likely to be even greater and more oppressive. Faced with these problems, the institutions have the right to make decisions about their integrity and future, but they should include practicing physicians as partners in their deliberations. The institutions must exercise their prerogative to strengthen themselves, because strong hospitals are necessary for the success of the practitioner. Issues arising between the private practitioners and the institutions which threaten not to be resolved in the best interests of the private practicing physicians should be handled as delicately and deliberately as possible. If both groups assume responsibility as partners and contributors in the decision-making process, then we can move forward together to effect changes which will be mutually acceptable. Are we all able to deal with this challenge?

318-328 Waterman Avenue
East Providence, Rhode Island 02914

Have You Heard? . . .

(Continued from page 280)

will use the antigen in diagnostic kits to test for the presence of hepatitis B in human blood. The company's work with human vaccines has focused on the various types of hepatitis. In 1979, scientists associated with the company were the first to report achieving the synthesis of hepatitis B antigens in *E coli* bacteria. The core antigen of hepatitis virus, produced in genetically-engineered bacteria, is essentially identical to natural core particles isolated from the livers of infected humans.

Biogen purifies the bacterially produced core particles and sells them as bulk material. The core antigen is then assembled into blood testing kits to test for the presence of antibodies against the

core material to determine if the blood donor has been infected with hepatitis B virus and might be a carrier of the disease.

• • •

A new brochure from the 3M Company includes photographs and detailed information on the Littman brand cardiology, specialist, classic, and lightweight stethoscopes. Specialty stethoscopes, such as the Anesthescope Stethoscope® and Ploss Monitorscope® also are described. The brochure is available from 3M Medical Products Division, 3M Center, Department ME83-10, PO Box 33686, St. Paul, Minnesota 55133.

(Continued on page 288)

Have You Heard? . . .

(Continued on page 287)

The American Council on Science and Health (ACSH) recently reported that postmenopausal women who take estrogen for more than two years face an increased risk of uterine cancer. The Council noted that estrogen is valuable when used appropriately, but like all drugs, has risks as well as benefits. The Council further said that the most common menopausal symptom treated with estrogen, severe hot flashes, can be relieved for most patients by brief use of the drug. ACSH Associate Director Doctor Richard A. Greenberg commented, "The scientific evidence favoring estrogen therapy to retard bone loss has increased substantially since 1979. We now believe that for some women, this potential benefit may outweigh the risks posed by the drug." Many factors, however, should enter into an informed decision, including the severity of an individual woman's estrogen-related menopausal symptoms, the potential to retard osteoporosis, and the risk of uterine cancer. ■

Legislative Update

(Continued from page 276)

to be performed by physicians. Nurse-teachers previously were permitted to do the examination.

- provides for the licensing of athletic trainers, establishes their qualifications, and creates a board to administer the regulations

Other issues

- requires medical schools to maintain clinical training programs for foreign medical graduates as a condition of receiving state funds. This existing requirement would have expired this year and has been extended until July 1, 1986.
- modifies the statutory qualifications for the Director of the Department of Health
- requires retirement at age 70 for physicians employed by the state

Copies of legislation are available from Brian R. Clarke at the Society's offices (401/331-3207). ■

Cardiac Rehabilitation

The New England Clinic's *Program of Cardiac Rehabilitation* is designed to meet the needs of the patient following hospital treatment for acute myocardial infarction or coronary bypass surgery. Cardiologist, exercise physiologist, nutritionist, and attending physician assist the patient and family through the initial period of adjustment and rehabilitation.

Key Features of the New England Clinic's Program

- Medical history and examination • Lipid profile
- Exercise stress test and exercise prescription
- Radiotelemetry monitoring of ECG
- Therapeutic exercise classes • Heart-Health Workshop
- Cardiac Rehabilitation Seminars • Nutrition counseling
- Progress and final report to attending physician

For further information, call The Clinic at (401)-353-0600.

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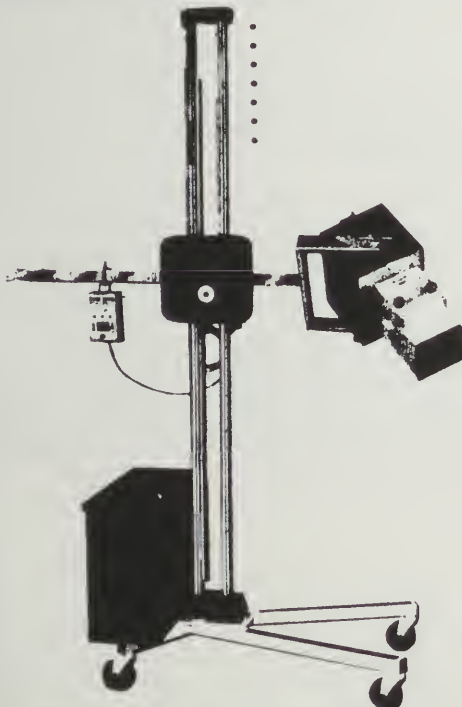
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THE ALLOCATION PANELIST VOLUNTEER serves as a member of a panel that distributes funds to the programs of United Way member agencies through review of agency finances, program and administration and through use of operational planning tools to most effectively apply available resources.

THE EVALUATION TASK FORCE MEMBER serves as a member of a volunteer task force, charged with evaluating the management, planning and financial functions of an individual human service agency funded by the United Way.

FOR MORE INFORMATION ON THESE positions, contact Lois Turner at the United Way of Southeastern New England, 401-521-9000, ext. 29.

References:

1. Stone PH, Turi ZG, Muller JE. Efficacy of nifedipine therapy for refractory angina pectoris. *Am Heart J* 104 672-681, September 1982
2. Antman E, Muller J, Goldberg S, et al. Nifedipine therapy for coronary artery spasm: Experience in 127 patients. *N Engl J Med* 302:1269-1273, June 5, 1980

BRIEF SUMMARY

PROCARDIA* (nifedipine) CAPSULES

For Oral Use

INDICATIONS AND USAGE: I. **Vasospastic Angina:** PROCARDIA (nifedipine) is indicated for the management of vasospastic angina confirmed by any of the following criteria: 1) classical pattern of angina at rest accompanied by ST segment elevation, 2) angina or coronary artery spasm provoked by ergonovine, or 3) angiographically demonstrated coronary artery spasm. In those patients who have had angiography the presence of significant fixed obstructive disease is not incompatible with the diagnosis of vasospastic angina, provided that the above criteria are satisfied. PROCARDIA may also be used where the clinical presentation suggests a possible vasospastic component but where vasospasm has not been confirmed, e.g., where pain has a variable threshold on exertion or in unstable angina where electrocardiographic findings are compatible with intermittent vasospasm, or when angina is refractory to nitrates and/or adequate doses of beta blockers.

II. **Chronic Stable Angina (Classical Effort-Associated Angina):** PROCARDIA is indicated for the management of chronic stable angina (effort-associated angina) without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or organic nitrates or who cannot tolerate those agents.

In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in those patients are incomplete.

Controlled studies in small numbers of patients suggest concomitant use of PROCARDIA and beta blocking agents may be beneficial in patients with chronic stable angina, but available information is not sufficient to predict with confidence the effects of concurrent treatment, especially in patients with compromised left ventricular function or cardiac conduction abnormalities. When introducing such concomitant therapy, care must be taken to monitor blood pressure closely since severe hypotension can occur from the combined effects of the drugs. (See Warnings.)

CONTRAINDICATIONS:

Known hypersensitivity reaction to PROCARDIA.
WARNINGS: Excessive Hypotension: Although in most patients, the hypotensive effect of PROCARDIA is modest and well tolerated, occasional patients have had excessive and poorly tolerated hypotension. These responses have usually occurred during initial titration or at the time of subsequent upward dosage adjustment, and may be more likely in patients on concomitant beta blockers.

Severe hypotension and/or increased fluid volume requirements have been reported in patients receiving PROCARDIA together with a beta blocking agent who underwent coronary artery bypass surgery using high dose fentanyl anesthesia. The interaction with high dose fentanyl appears to be due to the combination of PROCARDIA and a beta blocker, but the possibility that it may occur with PROCARDIA alone, with low doses of fentanyl, in other surgical procedures, or with other narcotic analgesics cannot be ruled out. In PROCARDIA treated patients where surgery using high dose fentanyl anesthesia is contemplated, the physician should be aware of these potential problems and if the patient's condition permits, sufficient time (at least 36 hours) should be allowed for PROCARDIA to be washed out of the body prior to surgery.

Increased Angina: Occasional patients have developed well documented increased frequency, duration or severity of angina on starting PROCARDIA or at the time of dosage increases. The mechanism of this response is not established but could result from decreased coronary perfusion associated with decreased diastolic pressure with increased heart rate, or from increased demand resulting from increased heart rate alone.

Beta Blocker Withdrawal: Patients recently withdrawn from beta blockers may develop a withdrawal syndrome with increased angina, probably related to increased sensitivity to catecholamines. Initiation of PROCARDIA treatment will not prevent this occurrence and might be expected to exacerbate it by provoking reflex catecholamine release. There have been occasional reports of increased angina in a setting of beta blocker withdrawal and PROCARDIA initiation. It is important to taper beta blockers if possible, rather than stopping them abruptly before beginning PROCARDIA.

Congestive Heart Failure: Rarely patients, usually receiving a beta blocker, have developed heart failure after beginning PROCARDIA. Patients with tight aortic stenosis may be at greater risk for such an event.

PRECAUTIONS: General: Hypotension: Because PROCARDIA decreases peripheral vascular resistance, careful monitoring of blood pressure during the initial administration and titration of PROCARDIA is suggested. Close observation is especially recommended for patients already taking medications that are known to lower blood pressure. (See Warnings.)

Peripheral edema: Mild to moderate peripheral edema, typically associated with arterial vasodilation and not due to left ventricular dysfunction, occurs in about one in ten patients treated with PROCARDIA. This edema occurs primarily in the lower extremities and usually responds to diuretic therapy. With patients whose angina is complicated by congestive heart failure, care should be taken to differentiate this peripheral edema from the effects of increasing left ventricular dysfunction.

Drug interactions: Beta-adrenergic blocking agents. (See Indications and Warnings.) Experience in over 1400 patients in a non-comparative clinical trial has shown that concomitant administration of PROCARDIA and beta-blocking agents is usually well tolerated, but there have been occasional literature reports suggesting that the combination may increase the likelihood of congestive heart failure, severe hypotension or exacerbation of angina.

Long-acting nitrates. PROCARDIA may be safely co-administered with nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.

Digitalis. Administration of PROCARDIA with digoxin increased digoxin levels in nine of twelve normal volunteers. The average increase was 45%. Another investigator found no increase in digoxin levels in thirteen patients with coronary artery disease. In an uncontrolled study of over two hundred patients with congestive heart failure during which digoxin blood levels were not measured, digitalis toxicity was not observed. Since there have been isolated reports of patients with elevated digoxin levels, it is recommended that digoxin levels be monitored when initiating, adjusting, and discontinuing PROCARDIA to avoid possible over- or under-digitalization.

Carcinogenesis, mutagenesis, impairment of fertility. When given to rats prior to mating, nifedipine caused reduced fertility at a dose approximately 30 times the maximum recommended human dose.

Pregnancy. Category C. Please see full prescribing information with reference to teratogenicity in rats, embryotoxicity in rats, mice and rabbits, and abnormalities in monkeys.

ADVERSE REACTIONS: The most common adverse events include dizziness or light-headedness, peripheral edema, nausea, weakness, headache and flushing each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0.5%. Syncopal episodes did not recur with reduction in the dose of PROCARDIA or concomitant antianalgesic medication. Additionally, the following have been reported: muscle cramps, nervousness, dyspnea, nasal and chest congestion, diarrhea, constipation, inflammation, joint stiffness, shakiness, sleep disturbances, blurred vision, difficulties in balance, dermatitis, pruritus, urticaria, fever, sweating, chills, and sexual difficulties. Very rarely introduction of PROCARDIA therapy was associated with an increase in anginal pain, possibly due to associated hypotension.

In addition, more serious adverse events were observed, not readily distinguishable from the natural history of the disease in these patients. It remains possible, however, that some or many of these events were drug related. Myocardial infarction occurred in about 4% of patients and congestive heart failure or pulmonary edema in about 2%. Ventricular arrhythmias or conduction disturbances each occurred in fewer than 0.5% of patients.

Laboratory Tests: Rare, mild to moderate, transient elevations of enzymes such as alkaline phosphatase, CPK, LDH, SGOT, and SGPT have been noted, and a single incident of significantly elevated transaminases and alkaline phosphatase was seen in a patient with a history of gall bladder disease after about eleven months of nifedipine therapy. The relationship to PROCARDIA therapy is uncertain. These laboratory abnormalities have rarely been associated with clinical symptoms. Cholestasis, possibly due to PROCARDIA therapy, has been reported twice in the extensive world literature.

HOW SUPPLIED: Each orange, soft gelatin PROCARDIA CAPSULE contains 10 mg of nifedipine. PROCARDIA CAPSULES are supplied in bottles of 100 (NDC 0069-2600-66), 300 (NDC 0069-2600-72), and unit dose (10x10) (NDC 0069-2600-41). The capsules should be protected from light and moisture and stored at controlled room temperature 59° to 77° F (15° to 25° C) in the manufacturer's original container.

More detailed professional information available on request

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*"I can do things that I
couldn't do for 3 yrs. including
joining the human race again."*



*Quotes from an unsolicited
letter received by Pfizer from an
angina patient. While this patient's experience
is representative of many
unsolicited comments received,
not all patients will respond to
Procordia nor will they all
respond to the same degree.*

*"My daily routine consisted of
sitting in my chair trying to stay alive."*

*"My doctor switched me to
PROCARDIA[*] as soon as it became
available. The change in my condition
is remarkable."*

*"I shop, cook and can plant
flowers again."*

*"I have been able to do volunteer
work...and feel needed and useful
once again."*

PROCARDIA can mean the return to a more normal life
for your patients—having fewer anginal attacks,¹ taking
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productive once again.

Side effects are usually mild (most frequently reported
are dizziness or lightheadedness, peripheral edema,
nausea, weakness, headache and flushing, each occurring
in about 10% of patients, transient hypotension in about
5%, palpitation in about 2% and syncope in about 0.5%).



for the varied faces of angina

PROCARDIA[®]
(NIFEDIPINE) Capsules 10 mg

* Procordia is indicated for the management of:

- 1) Confirmed vasospastic angina.
- 2) Angina where the clinical presentation suggests a possible vasospastic component.
- 3) Chronic stable angina without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or nitrates or who cannot tolerate these agents. In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks' duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in these patients are incomplete.

Please see PROCARDIA brief summary on adjoining page.

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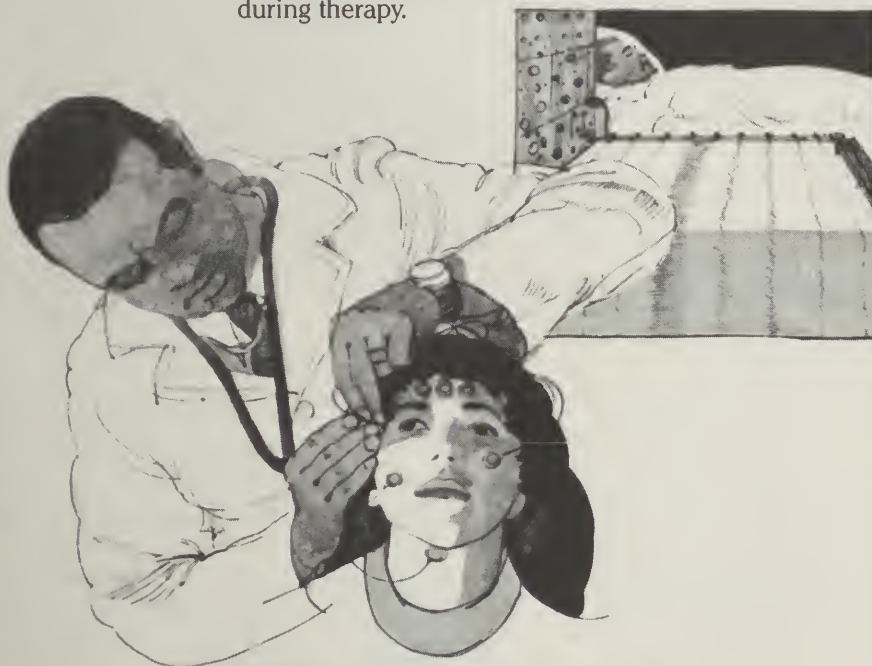
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The weight of objective evidence supports the clinical efficacy of Dalmane®[®] flurazepam HCl/Roche

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- Studied extensively in the sleep laboratory—the most valid environment for measuring hypnotic efficacy.¹⁻¹²
- Studied in over 200 clinical trials involving over 10,000 patients.¹³
- During long-term therapy, which is seldom required, periodic blood, kidney and liver function tests should be performed.
- Contraindicated in patients who are pregnant or hypersensitive to flurazepam.
- Caution patients about drinking alcohol, driving or operating hazardous machinery during therapy.



References: 1. Kales A et al: *J Clin Pharmacol* 17:207-213, Apr 1977 and data on file, Hoffmann-La Roche Inc., Nutley, NJ. 2. Kales A: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. 3. Zimmerman AM: *Curr Ther Res* 13:18-22, Jan 1971. 4. Kales A et al: *JAMA* 241:1692-1695, Apr 20, 1979. 5. Kales A, Scharf MB, Kales JD: *Science* 201:1039-1041, Sep 15, 1978. 6. Kales A et al: *Clin Pharmacol Ther* 19:576-583, May 1976. 7. Kales A, Kales JD: *Pharmacol Physicians* 4:1-6, Sep 1970. 8. Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc* 27:541-546, Dec 1979. 9. Dement WC et al: *Behav Med* 5:25-31, Oct 1978. 10. Vogel GW: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. 11. Karacan I, Williams RL, Smith JR: The

sleep laboratory in the investigation of sleep and sleep disturbances. Scientific exhibit at the 124th annual meeting of the American Psychiatric Association, Washington, DC, May 3-7, 1971. 12. Pollak CP, McGregor PA, Weitzman ED: The effects of flurazepam on daytime sleep after acute sleep-wake cycle reversal. Presented at the 15th annual meeting of the Association for Psychophysiological Study of Sleep, Edinburgh, Scotland, June 30-July 4, 1975. 13. Data on file, Hoffmann-La Roche Inc., Nutley, NJ.

Dalmane®[®]
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Before prescribing, please consult complete product information, a summary of which follows:

Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; in acute or chronic medical situations requiring restful sleep. Objective sleep laboratory data have shown effectiveness for at least 28 consecutive nights of administration. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended. Repeated therapy should only be undertaken with appropriate patient evaluation.

Contraindications: Known hypersensitivity to flurazepam HCl; pregnancy. Benzodiazepines may cause fetal damage when administered during pregnancy. Several studies suggest an increased risk of congenital malformations associated with benzodiazepine use during the first trimester. Warn patients of the potential risks to the fetus should the possibility of becoming pregnant exist while receiving flurazepam. Instruct patient to discontinue drug prior to becoming pregnant. Consider the possibility of pregnancy prior to instituting therapy.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdose, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, e.g., excitement, stimulation and hyperactivity.

Dosage: Individualize for maximum beneficial effect. **Adults:** 30 mg usual dosage; 15 mg may suffice in some patients. **Elderly or debilitated patients:** 15 mg recommended initially until response is determined.

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.

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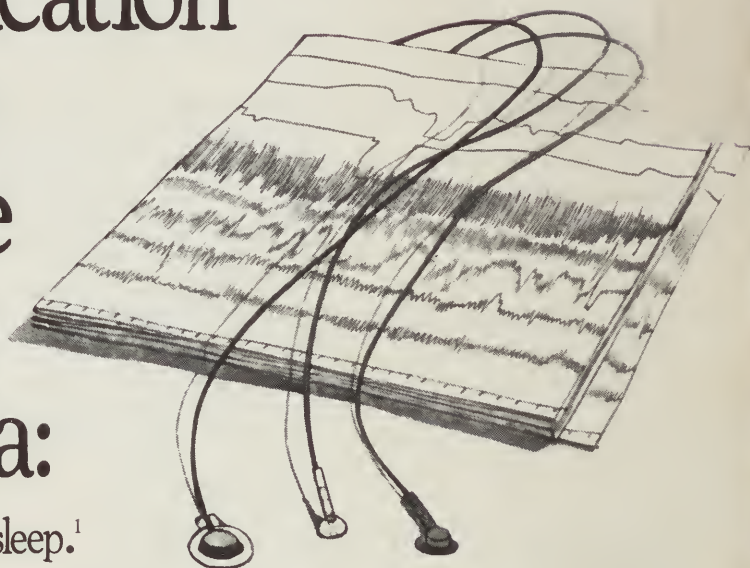
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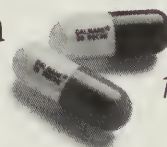
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Please see summary of product information on reverse side.

Rhode Island Medical Journal

August 1983

Volume 66, Number 8

W1
RH.48B

Doctor George S. Mathews
(center, bow tie) on the occasion
of his retirement from Rhode
Island Hospital — See Page 301



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NEWSLETTER

EDITORIALS

PRESIDENT'S PAGE

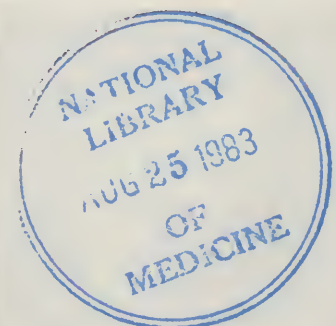
SPECIAL REPORTS

RADIOGRAPHIC CASE OF THE MONTH

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PRESIDENTIAL ADDRESS

EDITOR'S MAILBOX



An added complication... in the treatment of bacterial bronchitis*

Increasing incidence
of ampicillin resistance in
Haemophilus influenzae

Ampicillin-Resistant
Haemophilus influenzae

H. influenzae

S. pneumoniae

Brief Summary. Consult the package literature for prescribing information.

Indications and Usage: Cefaclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae* (*Diplococcus pneumoniae*), *Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci). Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Cefaclor.

Contraindication: Cefaclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES.

Antibiotics, including Cefaclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics. Such colitis may range in severity from mild to life-threatening.

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis.

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone. In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation. When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile*. Other causes of colitis should be ruled out.

Precautions: General Precautions—If an allergic reaction to Cefaclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of Cefaclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug.

Cefaclor should be administered with caution in the presence of markedly impaired renal function. Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Cefaclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinistix® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

Usage in Pregnancy—Pregnancy Category B—Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in terrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Cefaclor. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers—Small amounts of Cefaclor have been detected in mother's milk following administration of single 500-mg doses. Average levels were 0.18, 0.20, 0.21, and 0.16 mcg/ml at two, three, four, and five hours respectively. Trace amounts were detected at one

Some ampicillin-resistant strains of *Haemophilus influenzae*—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Cefaclor.¹⁻⁶

In clinical trials, patients with bacterial bronchitis due to susceptible strains of *Streptococcus pneumoniae*, *H. influenzae*, *S. pyogenes* (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Cefaclor.⁷

Cefaclor®

cefaclor

Pulvules®, 250 and 500 mg

hour. The effect on nursing infants is not known. Caution should be exercised when Cefaclor® (cefaclor, Lilly) is administered to a nursing woman.

Usage in Children—Safety and effectiveness of this product for use in infants less than one month of age have not been established.

Adverse Reactions: Adverse effects considered related to therapy with Cefaclor are uncommon and are listed below.

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70).

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment. Nausea and vomiting have been reported rarely.

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthritis and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Cefaclor. Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain—Transient abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic—Slight elevations of SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematologic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

[061782R]

*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.

Note: Cefaclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

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Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285. Eli Lilly Industries, Inc., Carolina, Puerto Rico 00630

300035

Newsletter

Charles P. Shoemaker, Jr., MD, President
Norman A. Baxter, PhD, Executive Director
Wendy J. Smith, Editor

August 1983



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COUNCIL ASKS MEDIATION COMMITTEE NOT TO HANDLE FEE COMPLAINTS

At its June 13 meeting, the Society's Council asked the Mediation Committee not to adjudicate complaints about physician charges until legal counsel has an opportunity to review the Committee's records. All identifying information will be purged before legal review. The action was taken because of a recent Federal Trade Commission (FTC) judgment against the Michigan State Medical Society that such activities could be interpreted as violations of federal anti-trust regulations. The AMA recently reported that at least 12 state and county medical societies have abandoned fee review because of potential FTC involvement. In recent years, almost 50 per cent of the complaints received by the Mediation Committee involved fees.

In other actions, the Council:

- received a report that the Drug Control Division of the Rhode Island Department of Health currently is monitoring the prescribing practices of physicians. Society members Drs Robert Burroughs, John Femino, and Joseph DiMase serve on an advisory committee to the Division.
- approved a policy that premium payments should not be forwarded to Blue Cross/Blue Shield on behalf of physicians enrolled under the Society's group health insurance program unless payment from the subscriber has been received in the Society's offices. In a related action, the Council also voted to expand coverage under the program to include employees in physician offices.
- approved a proposal from Kates Properties to renovate the Cooper Property into office space at no cost or liability to the Society.
- asked the Society's Liaison Committee to the Rhode Island Bar Association, chaired by Dr Paul T. Welch, to develop a policy statement on "do not resuscitate" orders.
- authorized a contribution to the July 1983 symposium, "Medical Aspects of Sports," held at the Univ. of Rhode Island Kingston campus, and approved the Society's co-sponsorship of the program.
- approved a plan to transfer certain records and archives of the Society to the Rhode Island Historical Society. The project was prompted by the necessity of providing additional space in the Medical Society Building.
- appointed Dr Herbert F. Hager as parliamentarian for the year 1983-84.
- honored Dr Leonard S. Staudinger, who served as Vice-President during 1982-83, and Charles E. Clapp II of the law firm Edwards & Angell. Mr Clapp, who has served as the Society's legal counsel since 1972, has been appointed a judge in the US District Tax Court, Washington, DC.

1983-84 MEETING SCHEDULE ESTABLISHED

The Council recently set the following schedule for meetings of the House of Delegates -- September 21, 1983 and January 18, 1984 at 2 pm in the Medical Society Auditorium. Society President Dr Charles P. Shoemaker, Jr. recently asked the Annual Meeting and Awards Committee to consider holding the annual meeting of the House of Delegates in conjunction with the annual session of the Society, now scheduled for Wednesday, May 16, 1984 in Providence.

In a related action, Dr Shoemaker recently informed the presidents of officially-recognized specialty societies that their delegates may now vote in the House of Delegates. The membership approved the necessary Bylaws changes at its annual meeting last May.

FEDERAL TRADE COMMISSION APPROVES PLANS BY HEALTH CARE REVIEW, INC.

The Federal Trade Commission (FTC) has approved plans by Health Care Review, Inc. (formerly the Rhode Island PSRO) to review the medical necessity of care provided under private employers' health benefits programs. The organization had requested an FTC advisory opinion in January on its plan to conduct preadmission and concurrent reviews of private patients, to recommend appropriate lengths of hospital stays, and to conduct quality review studies.

The FTC said that the plan did not appear to violate any anti-trust laws and could, "in fact, promote competition, thereby providing substantial benefits to consumers." The FTC advisory opinion warned, however, that Health Care Review should work to assure that the purpose of the program remains "legitimate and does not produce significant anti-competitive effects."

For more on Health Care Review, Inc., see page 332 of this Journal.

BLUE CROSS & BLUE SHIELD OF RHODE ISLAND PROMOTES DRUG RECORDING PROGRAM

Blue Cross & Blue Shield of Rhode Island recently encouraged the state's physicians to participate in the organization's "Check Book" program. The program is designed to reduce the incidence of adverse drug reactions, which the plan estimates are responsible for seven to 12 per cent of all hospital admissions in the state. More than 50,000 copies of a pamphlet, "Your Good Health Check Book," will be distributed through Rhode Island physicians and pharmacists. It includes space for recording all prescription and over-the-counter drugs used by the patient, including information on strength and dosage, length of use, and special directions from the physician. The program has been endorsed by provider and consumer groups throughout Rhode Island, including the Society.

Physicians are encouraged to give the booklet to their patients, particularly those who may be under the care of more than one doctor or who may be taking multiple medications. A supply is available from Blue Cross & Blue Shield of Rhode Island, 444 Westminster Mall, Providence, RI 02901 (401/272-8500).

PHYSICIANS NEEDED

The US Immigration and Naturalization Service is looking for physicians to perform physical examinations on aliens who have applied for status as permanent

residents. The examinations are performed in the physician's own office on a fee-for-service basis, and the capacity to do on-site x-ray films and serologic testing is required. Doctors are particularly needed in Providence, Central Falls, Pawtucket, and Newport.

Additional information is available from John W. Bellich, US Immigration and Naturalization Service, at 401/528-4374.

PMA AUXILIARY PRESENTS SCHOLARSHIP

The Providence Medical Association Auxiliary recently presented a \$1,000 scholarship to William A. Ferri, Jr., of Cranston. Ferri, the son of William and Anna Ferri, is one of seven children, four of whom are in college. A graduate of Brown University, he is studying at the Boston University School of Medicine, where he serves as his class representative to the curriculum committee. While at Brown, he served as a counselor to underprivileged children and conducted research on neurotransmitter systems.

REAGAN TELLS PHYSICIANS TO ACCEPT MEDICARE FREEZE

Physicians should "share the burden" by accepting a one-year freeze in Medicare payments, President Reagan told the AMA House of Delegates at its June annual meeting. The President also proposed that Medicare patients share more of the costs of routine, non-catastrophic illness. Dealing with Medicaid, Reagan said his proposal for co-payments from recipients would involve nominal amounts of \$1 to \$2 from indigent patients.

AMA Executive Vice-President Dr James H. Sammons responded that the proposal to limit Medicare reimbursement would not accomplish the purpose of reducing medical care costs and instead would transfer these costs to other patients.

In other actions at its June 19-23 meeting, the AMA House:

- reaffirmed its previous action on the Accreditation Manual for Hospitals, currently under revision by the Joint Commission on the Accreditation of Hospitals (JCAH). JCAH had proposed a controversial measure which would have replaced the section on "medical staffs" with one on "organized staffs." The AMA House emphasized that the medical care of all patients should remain under the supervision of fully-licensed physicians.
- reduced a recommended dues increase for AMA members from \$25 to \$15. As a result, 1984 dues for regular members will be \$330; dues for physicians in their second year of training \$248; military physicians, \$220; physicians in their first year of practice, \$165; and residents, \$45.
- held the first meeting of the newly-formed Section on Hospital Medical Staffs. More than 640 physicians attended the session.

For more on the AMA meeting, see "Notes of a Convention Watcher" on page 305.

UP AND COMING

The September Journal will include an updated copy of the Society's bylaws which were revised at the May 1983 annual meeting. The Society's 1983 Directory of Members also will be in the mail next month.

PRACTICE MANAGEMENT QUESTION OF THE MONTH:

SHOULD I DEVELOP A PATIENT INFORMATION BROCHURE?

Many physicians have found that a patient information brochure is an effective way of answering routine questions about their practices. A well-written guide allows for greater practice visibility, provides valuable information for new patients, and answers routine questions that would otherwise require staff time.

The length and content of patient information brochures will vary widely, depending on such factors as the type of practice and the size of your office staff. At a minimum, however, a guide should include the following "standard" information:

Types of services provided: It should explain briefly the types of medical problems handled by the practice in terms that patients will readily understand. The guide also should outline practice restrictions, such as not seeing children as patients; functions handled by the office staff; how test results are communicated to patients; participation in insurance programs; and any special services, such as disability examinations.

Office hours and appointments: The brochure should note the days and hours the office is open; how far in advance appointments should be scheduled; the practice's cancellation policy; the need for office staff to know about the nature and extent of illness so that they can schedule patients for an appropriate period; the practice's policy on "walk-ins" and house calls; and coverage arrangements when the physician is away.

Emergency information: The guide should provide instructions for emergency situations and a list of hospitals where the physician has admitting privileges and their phone numbers.

Telephone procedures: It should explain what types of calls are handled by the physician and how patients can obtain the most benefit from telephone consultations.

Billing and insurance policies: The guide should *explicitly* state your payment policies, including whether patients are expected to pay for office services at the time services are provided; whether payment plans are available; and whether payments are suspended or deferred for unemployed patients without insurance coverage. It also should note whether patients must complete their own insurance forms; what type of assistance is available from your staff; whether there is a charge for this service; and the circumstances, if any, under which the office staff will file insurance claims for patients.

Useful guidelines for your brochure:

- The brochure should be informal and written in readily-understandable terms. Avoid jargon--such as "we do not accept assignment"--which may be confusing.
- It reflects your practice and should be typed neatly in an attractive format. The office address and telephone number should be conspicuous.
- It should be sent to all patients. Many practices send a copy to new patients before their first appointment, asking them to retain it for future reference. The guide should be updated periodically and only a few months' supply kept on hand at any one time.

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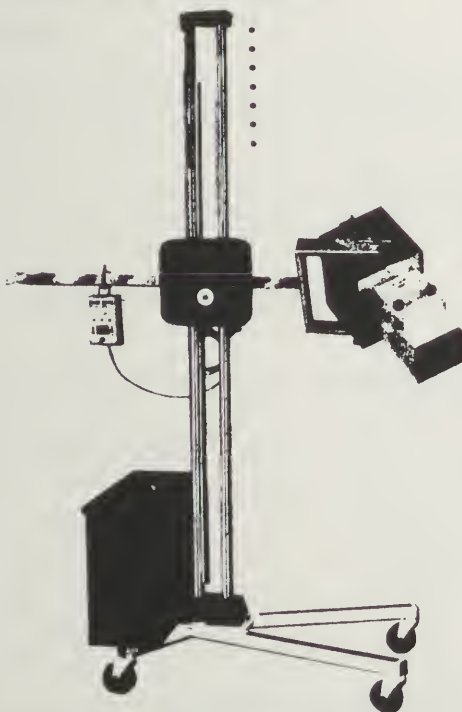
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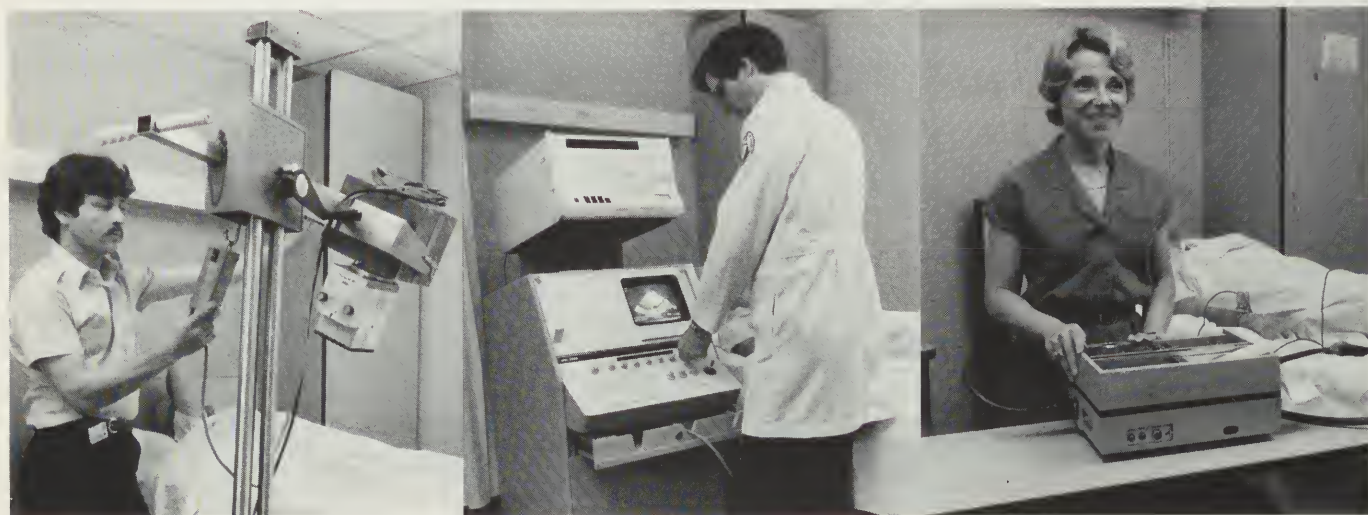
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George S. Mathews, MD

COVER:

Doctor George S. Mathews (center, bow tie) on the occasion of his retirement from Rhode Island Hospital in the early 1930s. Others in the photograph include Doctors William O. Rice (shaking hands with Doctor Mathews); John Matthews Peters, Superintendent, Rhode Island Hospital (between Doctors Rice and Mathews); Howard E. Blanchard (back row, to the left of Doctor Peters); Frank "Pete" Littlefield (back row, to the right of Doctor Peters); and Henry B. Moor (far right). The identities of the others continue to elude us. If you can provide any clues, please let us know.

For more on Doctor Mathews and his times, please see pages 303 and 323. Photograph courtesy of Mrs. Richard Keenan, Wellesley, Massachusetts.

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Mauran, MD, William L.
May, MD, J. Brian
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McDermott, MD, William H.
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Miglieri, MD, Julius C.
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Musche, Jr., MD, Frank W.
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O'Neill, MD, Joseph J.
O'Neill, MD, Robert T.
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Sayeed, MD, Syed M.
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Simon, MD, Stanley
Singh, MD, Arun K.
Slafsky, MD, S. Fradrick
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Smith, Dr. J. Gerald
Snyder, DO, Richard
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Somio, MD, Agnes
Spencer, Jr., MD, Robert F.
Spizziri, MD, Michael E.
Staudinger, MD, Leonard S.
Stephans, MD, Karl F.
Stevens, MD, Bruce L.
Stoll, Jr., MD, Julius
Stona, MD, Jacob

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Strom, MD, John O.
Studders, MD, James P.
Sturam, MD, Jorge H.
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St. Jean, MD, Bernard
Susset, MD, Veronique
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Testa, MD, Anthony F.
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Toselli, MD, Alfred
Travis, DO, Earle
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Trivett, MD, R. B.
Urbanian, MD, Henry S.
Vacca, MD, Vincent F.
Veltri, MD, Frank A.
Verma, MD, Tilak K.
Vesey, MD, John M.
Vigliani, MD, Mario
Virluan, MD, J. C.
Vito, Jr., MD, Louis
Vogel, MD, Benjamin S.
Vogel, MD, Renee G.
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Wagdi, MD, Sefra M.
Walsh, MD, Jerome M.
Wasser, MD, Marvin S.
Webster, MD, Michael J.
Welch, MD, Bance M.
Welch, MD, Elizabeth A.
Westlake, MD, Robert J.
Wexler, MD, William M.
White, MD, Austin E.
Williams, MD, David O.
Wilson, MD, Douglas G.
Wing, MD, Elihu
Wintrob, MD, Ronald
Wold, MD, Patricia
Wood, MD, John P.
Woodcome, Jr., MD, Harold A.
Wroblewski, MD, Daniel E.
Yakovonis, MD, Vincent J.
Yashar, MD, John
Yazbak, MD, F. Edward
Zaki, MD, Hani
Zuerner, MD, Richard T.

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Rosati, OD, Alfred P.
Rosenfeld, OD, Stawart
Rowley, OD, Joseph L.
Serra, OD, Ronald J.
Sheehan, OD, Thomas M.
Smiller, OD, Conrad C.
Smiley, OD, Harrison
Surdut, OD, Scott H.
Thomas, OD, Lester L.
Tramonti, OD, James
Vito, OD, David A.
Woodcome, OD, Henry E.
Wright, OD, David G.

PODIATRISTS

Batley, DPM, Michael A.
Bigelli, DPM, Angelo
Cavichio, DPM, Charles M.
Cedrone, DPM, Dante
Cornell, DPM, Brian W.
DeCesare, Jr., DPM, Thomas
Feldman, DPM, Seymour
Gibbons, DPM, Robert W.
Goldstein, DPM, George M.
Greenburg, DPM, Melvin
Gruber, DPM, Lawrence
Harris, DPM, Martin C.
Hart, DPM, Dennis J.
Hochman, DPM, Edward L.
Houle, DPM, Robert J.
Kumins, DPM, Richard C.
Labush, DPM, Leonard W.
Lewis, DPM, Peter J.
Lovitz, DPM, Lee S.
Mendillo, DPM, Anthony
Pascallides, DPM, James T.
Romano, DPM, Michael
Rothberg, DPM, Kopel M.
Segal, DPM, Kenneth M.
Singleton, DPM, Edward E.
Werber, DPM, Bruce R.

HOSPITALS

Fogarty Memorial Hospital
Kent County Memorial Hospital
Memorial Hospital of Pawtucket
Notre Dame Hospital
Rhode Island Hospital
Roger Williams Hospital
St. Joseph's Hospital
Westerly Hospital
Women & Infants Hospital
Woonsocket Hospital

PHARMACIES

Alpha Drug Co.
Anthony's Drug
Aquidneck Professional Pharmacy
Atwood Prescription Center
Blackstone Pharmacy
Carrellias Pharmacy
Charlestown Pharmacy
Colonial Pharmacy
DeBella Pharmacy
Delekta Pharmacy
DiLorenzo Drugs
Fiorio's Pharmacy
Gateway Pharmacy
Granite Drug of Coventry
Granite Drug Inc. of Westerly
Gregg's Pharmacy
Lee's Pharmacy
Manville Pharmacy
Meadowbrook Pharmacy
Meadowcrest Pharmacy
Medical Center Pharmacy
Portsmouth Pharmacy, Inc.
Slatersville Medical Center Pharmacy
Standard Pharmacy
The Prescription Center
Thorpe Pharmacy
Woonsocket Medical Center Pharmacy

LABORATORIES

Barrington Medical Lab
Cliniclab, Inc.
Coventry Medical Lab
Cranston Medical Lab, Inc.
East Side Clinical Lab
E. F. Street Memorial Lab
Hamlat Medical Lab
Kant County Clinical Lab
Liu's Medical Association
Medical Service Laboratory, Inc.
Mendon Medical Lab
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**MASTER
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EDITORIALS

More on DRGs

Soon after the July issue of this *Journal* went to press, we learned of a new project to impose on hospitals a reimbursement system based on diagnosis-related groups (DRGs) and also to develop a companion fee schedule for physicians.

From January 1, 1984, Blue Cross and Blue Shield of Kansas will pay all subscriber hospitals on the basis of DRGs for services provided after that date. The Kansas plan will use the same paradigm of 467 DRGs adopted by Medicare for all inpatient reimbursement after October. As for the physician component, Kansas Blue Shield will continue to pay for services to inpatients and outpatients on the basis of usual and customary charges. For the first time, however, Blue Shield will limit the maximum range of charges it will pay for instead of the previous rate of 90 per cent of the usual and customary charges. Physicians in Kansas expect a lower rate, but no one is willing to predict how much it will fall.

Under terms of the new contract, participating physicians and contracting hospitals will be guaranteed full reimbursement up to the maximum limit established by the Blues. They may not, however, bill the patient for the difference between their charges and the plan's reimbursement. Non-contracting hospitals and non-participating physicians will receive no money directly from the plan. Instead, they will bill the patient, who will in turn be reimbursed by the plan at the same rate it would have paid a participating provider. Approximately 94 per cent of Kansas physicians and all but two small hospitals participate in the Blue Cross and Blue Shield plan.

Blue Cross and Blue Shield of Kansas have attempted to quell protest from the state's hospitals and physicians by simultaneously installing a

new computer system to expedite claims processing. Under the program, hospitals and physicians will be able to submit information for claims into the computer at the Kansas plan headquarters in Topeka through their own terminals. Plan officials predict that the new system will eliminate the substantial number of claims currently rejected because of incorrect information. Hospitals and physicians using the new computer linkage will be able to pinpoint mathematical errors and coding mistakes which now tie up claims for a month or longer.

The Kansas plan for physicians technically will not be based on a DRG system. Yet its ramifications appear ominous, particularly when they are viewed in the light of other trends. On the national scene, officials are looking at a DRG-based reimbursement system for physicians as a means of restraining medical care costs. The President's Private Sector Survey on Cost Containment supports a DRG approach for physicians as a method of saving the federal government an estimated \$3.34 billion. The Department of Health and Human Services (DHHS) is under a Congressional mandate to study the feasibility of implementing a DRG-based system for physicians who treat Medicare patients. DHHS must develop its recommendations by January 1, 1985.

Before that fateful date, however, a prairie fire may well roar out of the West. Blue Cross and Blue Shield plans throughout the country have expressed such overwhelming interest in the Kansas proposal that the Kansas organization hosted a conference in June to discuss its development and potential impact. How far the prairie fire spreads remains to be seen.

Seebert J. Goldowsky, MD

History Repeats Itself?

A reprint of a paper published in 1909 on "Contract Medicine in Rhode Island" appears elsewhere in this *Journal*. It originally was presented by a Providence physician, Doctor George S. Mathews (1862-1950), as part of a symposium on

contract medicine sponsored by the American Academy of Medicine in June 1909.

Besides its historical interest, the paper is still relevant to readers almost 75 years later. In his critically-praised book, *The Social Transformation*

of *American Medicine*, Paul Starr cites it extensively in his discussion of how lodges and benevolent societies provided medical care and other social services in the early 1900s. In 19th-century America, fraternal orders and benevolent societies functioned as social agencies for many new immigrants, provided life insurance for their members, and helped the sick and the infirm. By 1900, approximately eight million Americans belonged to lodges of one sort or another, and an estimated 25 to 30 per cent of all American families were affected by their activities. Starr notes that physicians were involved with the lodges in two ways. Initially they performed life insurance examinations and, especially after 1890, began to contract with benevolent societies to provide medical care for their members. The annual capitation fee was low even by turn-of-the-century standards and generally ranged between \$1 and \$2 per member. Some doctors took the practice one step further and in effect established closed-panel health maintenance organizations by forming private "clubs" to provide medical care for a capitation fee.¹

Many of the concerns Mathews describes are applicable to medical practice in the 1980s. Mathews and his colleagues worried about the impact of a "physician glut" and the resultant competition for patients. In his 1906 Presidential Address to the Rhode Island Medical Society, Doctor Christopher F. Barker cited the following figures on the perceived oversupply of physicians: "The number of physicians has greatly increased . . . In proportion to our population, we have twice as many physicians as England, four times as many as France, five times as many as Germany, and six times as many as Italy."² The problem was compounded since many of the doctors in this pre-Flexnerian era did not have the educational qualifications of the young man Mathews describes in his opening paragraph. Indeed, at the time he wrote the paper, Rhode Island was one of eight states in the Union which did not require graduation from an approved medical school as a condition of licensure.³

Like their modern-day counterparts, private practicing physicians at the turn of the century also faced competition from other sources. Mathews bemoans the "present-day trend to medical socialism" as demonstrated by such municipal services as "school examinations, [the existence of] police surgeons, sputum and Widal examinations, and free consultations in doubtful contagious cases." He raises concerns about a private club which literally employed two ambulance

chasers to "canvass shops, factories, and stores" in their search for prospective patients.⁴ Factories and mills also hired physicians to treat their employees although Starr points out that these doctors primarily dealt with industrial accidents and did not provide comprehensive medical care as we now know it.¹

The reaction of the medical establishment to contract medicine was predictable. Mathews, who at the time served as treasurer of the Rhode Island Medical Society, balances the advantages and drawbacks of contract medicine, and proposes a remedy based on reform rather than abolition. In March 1906, the Council of the Society, evidently in response to its consideration of a membership application from a Pawtucket contract physician, sidestepped the issue and appointed a committee to "consider the matter of contract work and its relation to membership in the Rhode Island Medical Society and to the welfare of the profession."⁵ (p 307) The committee reported three months later that it believed that the whole problem was outside the purview of the Society and "should be left to the local societies."⁵ (p 316) Apparently the membership at large spurned the committee's recommendation, for the House of Delegates at its 1907 meeting resoundingly opposed contract practice as "undignified, unbusinesslike, unfair to other practitioners, and derogatory to the best interests of medicine."⁵ (p 461) History was repeated more than 50 years later when the American Medical Association reacted hostilely to federal proposals to fund health maintenance organizations in the early 1970s: "The doctors felt directly threatened, and the AMA mounted an aggressive campaign against the program, stalling passage of legislation in Congress and persuading the White House to cut back its plans."¹

Who was Doctor Mathews? Born in Temple, Pennsylvania in 1862, he attended Providence public schools, graduated from Classical High School, and completed his undergraduate work at Brown University. He was the son of a physician and four of his seven brothers also became doctors. He received his medical degree from the Pennsylvania Medical School and did postgraduate work in medicine at Harvard and at the universities of Edinburgh and Munich. Long active in medical society affairs, he served as Treasurer of the Rhode Island Medical Society from 1902 to 1910 and as President during 1921-22.⁶ He also

(Continued on page 318)



Notes of a Convention Watcher

Small, but effective, is the most appropriate description for the delegation of the Rhode Island Medical Society to the American Medical Association Annual Meeting, June 19-23, Chicago. The official delegation included Doctors Paul J. M. Healey, President-Elect; John J. Cunningham, Delegate; Herbert F. Hager, Alternate Delegate; Norman A. Baxter, Executive Director; Jane Mitchell, Auxiliary Representative; and myself. Doctor Peter L. Mathieu, who led the annual session of the Organization of State Medical Association Presidents, and Doctor Betty B. Mathieu also joined the Rhode Island contingent.

The proposed revision of the *Accreditation Manual for Hospitals* proved to be the most controversial item on the agenda. Published by the Joint Commission on the Accreditation of Hospitals (JCAH), the manual is used as the basis for all hospital accreditation activities. In response to potential litigation from non-physician health care providers, JCAH originally proposed that the current section on "medical staffs" be replaced with one on "organized staffs." The recommendation has been the subject of heated debate since its introduction more than two years ago.

More than 20 separate resolutions on this subject alone were introduced at the 1983 annual meeting. Perhaps the following excerpt from the report of the reference committee responsible for JCAH-related issues will convey the flavor and intensity of the debate:

While the specific resolutions varied from those advocating adoption of broad principles, to those opposing the now defunct term "organized staff," to those advocating retention of the current standards, the testimony echoed similar concerns. These concerns were that the "medical staff" entity should be retained; that physicians should be responsible for the medical care of patients; that in accordance with state law, limited license practitioners should have access to the hospital; and that there should be a majority of physician membership on medical



Charles P. Shoemaker, Jr., MD

staff executive committees. In addition, witnesses testifying before your Reference Committee expressed a clear desire to have the opportunity to review again any new proposed revisions in the medical staff chapter prior to their publication.*

While the House of Delegates reaffirmed its support of the "medical staff" concept, it is obvious that this issue has not been laid to rest. We can expect to see it again at future AMA meetings.

One of the highlights of the meeting for the Rhode Island delegation was the session of the Organization of State Medical Association Presidents (OSMAP). Doctor Peter L. Mathieu led the OSMAP sessions, which provided a valuable opportunity for us to learn from the experiences of other state medical societies. Among other items, OSMAP members addressed the following concerns:

Federal Trade Commission (FTC) and mediation committees: Until recently, most state medical societies had active mediation committees which resolved patient complaints about possible overcharging

* Report of Reference Committee D, 1983 Annual Meeting, American Medical Association, Chicago.

by physicians and other ethical problems. In 1982, however, the FTC reached an out-of-court settlement with the AMA which clearly proscribes AMA (and state medical society) involvement in any activity that could be construed as the establishment of fees. At the OSMAP meeting, the Michigan delegate noted that the Michigan State Medical Society can continue to deal with fee-related complaints under the terms of its agreement with the FTC. Many other societies, though, including the Rhode Island Medical Society, have received legal opinions advising them to avoid fee disputes. Indeed, the Society's Council recently asked the Mediation Committee to stop handling fee complaints until legal counsel has had an opportunity to review the committee's records.

Malpractice: The New York delegate noted that his state continues to face a malpractice crisis of alarming proportions. But for the first time in many years, the State Medical Society of New York successfully obtained some badly-needed reforms in the tort system with the cooperation of an effective coalition of labor, industry, doctors, and other health professionals. It also was noted that such tort reforms as the establishment of arbitration panels and limitations on awards, while found to be unconstitutional in Rhode Island, have survived constitutional challenges elsewhere.

Cost containment: The OSMAP meeting featured a speech by David A. Winston, Senior Vice-President of Blyth, Eastman, Paine, and Weber Health Care Funding, Washington, DC. A consultant with strong ties to the Reagan Administration which pre-date the election, Winston raised the specter of a national fee schedule. If medical care costs increase too rapidly, he implied, private health insurance carriers would welcome a federally-established fee schedule for physicians.

Hospital-based physicians: Another issue of great concern, particularly to hospital-based physicians, is the denial or revocation of hospital privileges when the hospital signs an exclusive contract with another physician or physician group. The example that was frequently cited involved a Louisiana hospital which denied privileges to an anesthesiologist because it already had a contract with another anesthesiologist and a group of nurse anesthetists.

Reimbursement: The final issue at the OSMAP meeting was a recommendation from the Council

on Medical Service that the AMA "seriously consider recommending that third party payers change to an indemnity system for payment of physicians' services, rather than some proportion of the 'usual, customary, or reasonable (UCR)' charge." In effect, this would mean that physicians would establish their own fee schedules for services and procedures, the patient would be responsible for paying the physician's bill, and the insurance carrier would reimburse the patient a predetermined dollar amount. While the AMA currently supports the UCR concept, over the years differences have emerged among physicians, patients, and third-party payers as to what is "usual, customary, or reasonable." The Council felt that an indemnification program, by removing the physician from the insurance process, would alleviate many of these problems.

The Rhode Island delegation, though small, had good exposure. Doctor Peter Mathieu received many compliments for his effective leadership of the OSMAP session, and Doctor Cunningham led the New England delegation. The delegates from the New England area caucused at least once daily, and often twice, to review pending reports and resolutions and meet with candidates for AMA elected positions. In that regard, it is likely that an as yet unannounced candidate from the New England group will declare his candidacy for the AMA Board of Trustees in 1984. This year two Massachusetts delegates who ran for AMA committees received the support of the New England delegation.

Upon further reflection, I believe that the AMA has identified the substantive issues of concern to its members and has effectively helped shape the health policy of the nation. AMA meetings provide an extremely valuable forum for physicians from all areas of the country to exchange ideas about such current problems as hospital privileges, JCAH, and malpractice.

One final note about AMA finances: Contrary to public belief, the organization's political activities are not financed out of its dues revenue. They are entirely dependent on contributions to the American Medical Political Action Committee (AMPAC). Also, dues revenues finance only fifty per cent of the AMA's budget. The other revenues are derived from its publications, rents, and other income.

Society Objects to Substantial JUA Rate Increase

Norman A. Baxter, PhD

The Rhode Island Medical Society recently objected to rate increases sought by the Medical Malpractice Joint Underwriting Association (JUA) of Rhode Island as "excessive." In testimony before the Rhode Island Department of Business Regulation, the Society's actuary emphasized that the sharp increases proposed by the JUA were not supported by the data presented.

As a "quasi-public" agency, the JUA must obtain approval from the Department of Business Regulation for any rate increases and allow an opportunity for public comment. The hearing was held June 27 and the Department issued its ruling later that week.

In its rate proposal, which formed the basis of the public hearing, the JUA requested:

- an increase in the requirement for basic coverage from \$25,000/75,000 to \$100,000/300,000 and a percentage rate increase for the basic coverage. If granted, this would have resulted in a 64.5 per cent premium increase for most physicians. In its ruling, however, the Department restricted the increase to 24 per cent.
- a hike in the increased limits rate of 24.7 per cent. The Department ruled that this increase would not be justified by the experience in Rhode Island.
- an increase in the number of existing classifications of physicians from five to eight. Rhode Island is one of the few states to use a five-tier system. While the Department denied the JUA request, it asked for additional information to be submitted by March 1984.

E. James Stergiou, Vice-President of the New York actuarial firm of Woodward and Fondiller, prepared a written response to the JUA rate proposal and testified at the June public hearing

Norman A. Baxter, PhD, is Executive Director of the Rhode Island Medical Society.

on behalf of the Society. Anticipating the proposed rate filing, the Council of the Rhode Island Medical Society had authorized the hiring of an actuary to review the data and conduct an independent evaluation of the rate proposal. Woodward and Fondiller represented the Society and the office of the Attorney General during the 1981 rate hearings.

Stergiou told the Department that the proposed rate increase should be lower for several reasons. First, in response to a JUA estimate that the number of claims filed would increase seven per cent a year, he cited data which suggest that "the trends in frequency may be stabilizing and even declining." The number of filed claims rose between 1976 and 1980, but recent figures from Rhode Island and elsewhere suggest that the stabilization trend which started in 1981 may well continue. Second, Stergiou pointed out that the JUA had underestimated its potential investment income. The JUA has additional time for investment of its reserves because the period between the time a claim is filed and payment is made by the carrier (the so-called "tail") is growing longer. He also said that it would be necessary to invest only \$.525 at ten per cent annual return to meet each \$1 of projected claims over the next few years while the JUA claimed that it would need \$.57. Third, there was little evidence to support a claim by the JUA that its expense rates would escalate by the amount of the rate increase sought.

As a result of these factors and other actuarial data, the actuary recommended that a 19 per cent increase in the basic coverage rate would be justified, as opposed to the 64.5 per cent recommended by the JUA. He also said that the rates for increased limits coverage should be increased by 15.4 per cent in contrast to the JUA's recommended 24.7 per cent.

The annual rate filings by the Joint Underwriting Association and the independent evaluation

Table 1. Physician-Owned/Medical Society Created Liability Insurance Companies — 1982

COMPANY	LIMITS	TYPE OF COVERAGE	PREMIUM RANGE	AVERAGE PREMIUM
Alabama	1M/1M	Claims made	\$ 986-12,011	\$ 4,500
	5M/5M	First year claims made range	377- 2,823	
		Occurrence	1,124-12,809	
California (SCPIE)	1M/3M	Claims made	3,008-24,068	7,379
	2M/4M	First year claims made range	1,212- 8,832	
Illinois	1M/3M	Occurrence	3,372-29,144	8,100
	5M/5M			
Maine	1M/3M	Claims made	2,091-15,922	4,100
	5M/7M	First year claims made range	845- 6,432	
Maryland	1M/3M	Occurrence	1,450-19,700	5,550
	5M/7M	Claims made	500- 9,300	
Michigan	1M/1M	Occurrence	1,368-26,052	4,579
Missouri	1M/2M	Occurrence	2,246-15,498	3,400
	2M/3M			
New York	1M/3M	Occurrence	2,515-46,044	10,065
North Carolina	1M/1M	Claims made	782- 6,165	2,350
	5M/5M	First year claims made range	236- 3,166	
Pennsylvania	150/450	Claims made	1,316-17,278	4,600
		Occurrence	1,371-17,999	

Source: American Medical Association.

by the Society are crucial to all Rhode Island physicians. While the 24 per cent increase approved by the Department of Business Regulation is significant, without the involvement by the Society in the hearing process, the increase would have been much higher. Table 1, which shows an analysis of average premiums of selected physician-owned liability companies ("captive carriers") provides some perspective on national trends and permits a comparison of Rhode Island

premiums with other states. In neighboring Massachusetts, for example, the Joint Underwriting Association recently requested a 168 per cent rate hike which would increase the average premium from \$3,100 to more than \$8,000.

A copy of the JUA rate proposal and the actuarial evaluation prepared by Woodward and Fondiller are available to Society members upon request.

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SPECIAL REPORT

Uniform Determination of Death

Seebert J. Goldowsky, MD

The Rhode Island General Assembly during its January 1982 session amended the State Medical Examiner law so as to incorporate these simple definitions of death:

An individual who has sustained either (1) irreversible cessation of circulatory and respiratory functions, or (2) irreversible cessation of all functions of the entire brain, including the brain stem, is dead. A determination of death must be made in accordance with accepted medical standards.

On August 6, 1982, Doctor William H. Meroney of the Rhode Island Department of Health, Chairman of the State Medical Examiners Commission, filed with the Secretary of State on behalf of the Commission rules and regulations implementing the new definitions for determination of death. These became effective on August 26, 1982. The major provisions of these regulations are outlined below.

Introduction

The medical profession, based on careful research and extensive clinical experience, has found that death can be determined reliably by either cardiopulmonary or neurological criteria, as reported by the Medical Consultants on the Diagnosis of Death to the President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research. The tests used for determining and recording cessation of brain functions have changed and will continue to change based on new research and technology. These rules and regulations represent currently accepted medical standards for the determination of death and are designed to assist physicians to: 1) eliminate errors in classifying a

living person as dead; 2) allow as few errors as possible in classifying a dead body as alive; 3) allow a determination to be made without unreasonable delay; 4) be adaptable to a variety of clinical situations; and 5) be explicit and subject to verification.

Implementation of these rules and regulations requires the involvement of competent and judicious physicians experienced in clinical examination and the application of relevant procedures. All periods of observation cited below require the patient to be under the care of a physician licensed to practice medicine in Rhode Island. In view of the responsibility entailed in the determination of death, it is recommended that consultations be requested when appropriate.

Criteria for Determination of Death

A person who has sustained either irreversible cessation of circulatory and respiratory functions, or irreversible cessation of all functions of the entire brain, including the brain stem, is dead. A determination of death is made when a person presents the characteristic cardiopulmonary or neurological findings, or both, as described below. A diagnosis of death requires that both cessation of functions and irreversibility be demonstrated.

Irreversible Cessation of Circulatory and Respiratory Functions: A person with irreversible cessation of circulatory and respiratory functions is determined to be dead on the basis of: a) recognition of cessation of circulatory and respiratory functions, based on an appropriate clinical examination which discloses at least the absence of responsiveness, heart beat, and respiratory effort; and b) recognition of irreversibility by persistent absence of functions during an appropriate period of observation, trial of therapy, or both.

In clinical situations where death is expected, where the course has been gradual, and where

Copies of the complete rules and regulations are available from the Rhode Island Department of Health, 75 Davis Street, Providence, Rhode Island 02908, or from the Society's offices.

Seebert J. Goldowsky, MD, is Editor-in-Chief of the Rhode Island Medical Journal.

irregular agonal respiration or heartbeat finally ceases, the period of observation following the cessation may be only the few minutes required to complete the examination. Similarly, if resuscitation is not undertaken and ventricular fibrillation and standstill develop in a monitored patient, the required period of observation may be as short as a few minutes. When a possible death is unobserved, unexpected, or sudden, the examination may need to be more detailed and repeated over a longer period, while appropriate resuscitative effort is maintained as a test of cardiovascular responsiveness. Diagnosis in persons who are first observed with rigor mortis or putrefaction may require only the observation period necessary to establish that fact.

Irreversible Cessation of All Functions of the Entire Brain, Including the Brain Stem: A person with irreversible cessation of all functions of the entire brain, including the brain stem, is dead. A determination of death is made when evaluation of a person discloses cessation of cerebral functions and absence of brain stem functions.

Cessation of Brain Functions: The absence of cerebral functions is indicated by deep coma, manifested by inability to react or respond. Medical circumstances may require the use of confirmatory studies such as an electroencephalogram (EEG) or blood-flow study. The absence of brain stem functions also must be demonstrated. Reliable testing of brain stem reflexes requires a perceptive and experienced physician using adequate stimuli. Pupillary light, corneal, oculocephalic, oculovestibular, oropharyngeal, and respiratory (apnea) reflexes should be tested. When these reflexes cannot be adequately assessed, confirmatory tests are recommended. Peripheral nervous system activity and spinal cord reflexes may persist after death. True decerebrate or decorticate posturing or seizures are inconsistent with the diagnosis of death.

Irreversibility of cerebral functions: A determination of irreversibility of cerebral functions is recognized when: 1) the cause of coma is established and is sufficient to account for the loss of brain function; 2) the possibility of recovery of any brain function is excluded; and 3) the cessation of all brain functions persists for an appropriate period of observation, trial of therapy, or both.

Most difficulties with the determination of death on the basis of neurological evaluation have resulted from inadequate attention to the usual basic diagnostic criteria. In addition to a careful

clinical examination and investigation of history, relevant knowledge of causation may be acquired by computed tomographic scans, measurements of core temperature, drug screening, EEG, angiography, or other procedures.

The most important reversible conditions are sedation, hypothermia, neuromuscular blockage, and shock. In the unusual circumstance where sufficient cause cannot be established, irreversibility can be reliably inferred only after extensive evaluation for drug intoxication, extended observation, and other testing. A determination that blood flow to the brain is absent can be used to demonstrate a sufficient and irreversible condition.

Even when coma is known to have started at an earlier time, the absence of all brain functions must be established by an experienced physician at the initiation of the observation period. The length of period of observation is a matter of clinical judgment, and some physicians recommend shorter or longer periods than those given here.

Except for children, or patients with drug intoxication, hypothermia, or shock, physicians in medical centers having substantial experience in diagnosing death by neurological examination report no cases in which brain function has returned after a six-hour period, as revealed by clinical examination and confirmatory EEG. In the absence of confirmatory tests, a period of observation of at least 12 hours is recommended when an irreversible condition is well established. Observation for a period of 24 hours is generally desirable in the presence of anoxic brain damage, since the extent of damage is more difficult to determine. In anoxic injury, the observation period may be reduced if a test shows cessation of cerebral blood flow or if an EEG shows electrocerebral silence in an adult patient without drug intoxication, hypothermia, or shock.

Confirmation of clinical findings by EEG is desirable when additional objective documentation is needed to substantiate the clinical findings. Electrocerebral silence verifies loss of cortical functions, except in patients with drug intoxication or hypothermia. When considered with the clinical findings of absent brain stem functions, electrocerebral silence confirms the diagnosis.

Complete cessation of circulation to the normothermic adult brain for more than ten minutes is incompatible with survival of brain tissue. Documentation of this circulatory failure is therefore evidence of death of the entire brain. Four-vessel intracranial angiography is definitive for

diagnosing cessation of circulation to the entire brain (both anterior and posterior fossa), but entails substantial practical difficulties and risks. Tests are available that assess circulation only in the cerebral hemispheres, namely radioisotope bolus angiography and gamma camera imaging with radioisotope cerebral angiography. The absence of cerebral blood flow, as determined by these tests, is diagnostic of death, if no complicating conditions are present, and when clinical evidence indicates the cessation of all brain functions for at least six hours.

Complicating Conditions

Certain conditions present serious problems in the determination of death. Recommended procedural methods must be followed in children and in cases where there is any likelihood of the following complicating conditions: drug intoxication and metabolic disturbances, hypothermia, and shock.

Drug Intoxication and Metabolic Disturbances: Drug intoxication is the most serious problem in the determination of death, especially when multiple drugs may have been used. Cessation of brain functions caused by the sedative and anesthetic drugs, such as barbiturates, benzodiazepines, meprobamate, methaqualone, and trichloroethylene, may be completely reversible even though they produce clinical cessation of brain functions and electrocerebral silence. Toxicology screening for all likely drugs is required in cases where there is any likelihood of sedative presence. If exogenous intoxication is found, death may not be declared until the intoxicant is metabolized or intracranial circulation is tested and found to have ceased.

Total paralysis may cause unresponsiveness, areflexia, and apnea that closely simulate death. Exposure to drugs such as neuromuscular blocking agents or aminoglycoside antibiotics, and diseases such as myasthenia gravis are usually apparent from careful review of the history. Prolonged paralysis after use of succinylcholine chloride and related drugs requires evaluation for pseudocholinesterase deficiency. If there is any question, low-dose atropine stimulation, electromyogram, peripheral nerve stimulation, EEG, test of intracranial circulation, or extended observation,

as indicated, will make the diagnosis clear.

In drug-induced coma, EEG activity may return or persist while a patient remains unresponsive. Therefore, the EEG may be an important means of evaluation along with extended observation. If the EEG shows electrocerebral silence, short latency auditory or somatosensory-evoked potentials may be used to test brain stem functions, since these potentials are unlikely to be affected by drugs.

Some severe illnesses, eg, hepatic encephalopathy, hyperosmolar coma, and preterminal uremia, can cause deep coma. Before irreversible cessation of brain functions can be determined, metabolic abnormalities should be considered and, if possible, corrected. Confirmatory tests of circulation or EEG may be necessary.

Hypothermia: Criteria for reliable recognition of death are not available in the presence of hypothermia (below 32.2°C core temperature). The variables of cerebral circulation in hypothermic patients have not been studied adequately to determine whether tests of absent or diminished circulation are confirmatory. Hypothermia can mimic brain death by ordinary clinical criteria and can protect against neurological damage due to hypoxia. Further complications occur since hypothermia usually precedes and follows death. If, because of these complicating factors, it is unclear that a person is alive, the only available measure to resolve the issue is to restore normal body temperature. Hypothermia is not a common cause of difficulty in the determination of death.

Childhood: The brains of infants and young children have increased resistance to damage. Children may recover substantial functions even after exhibiting unresponsiveness on neurological examination for periods longer than would be likely in adults. Physicians should be particularly cautious in applying neurological criteria to determine death in children younger than 5 years of age.

Shock: Physicians should be especially cautious in applying neurological criteria to determine death in patients in shock, because the reduction in cerebral circulation can render clinical examination and laboratory results unreliable. ■



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RADIOGRAPHIC CASE OF THE MONTH

Michael J. Ryvicker, MD
Sanford L. Schatz, MD
Howard R. Cohen, MD
Allan M. Deutsch, MD

Department of Radiology
The Miriam Hospital
Providence, Rhode Island

History

A 25-year-old male with hearing loss and tinnitus in the right ear. The patient had a strong past history of allergic reaction to intravenous iodinated contrast media.

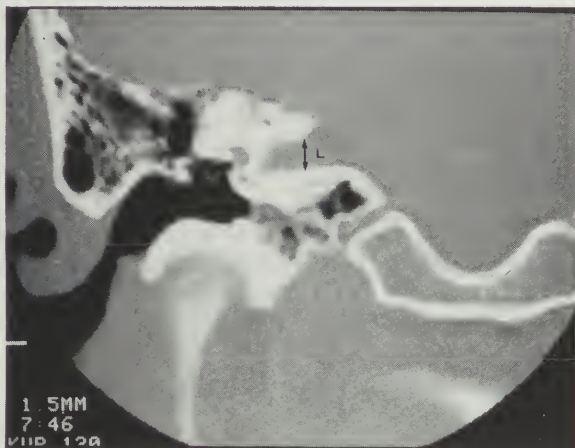


Fig 1 Left petrous bone

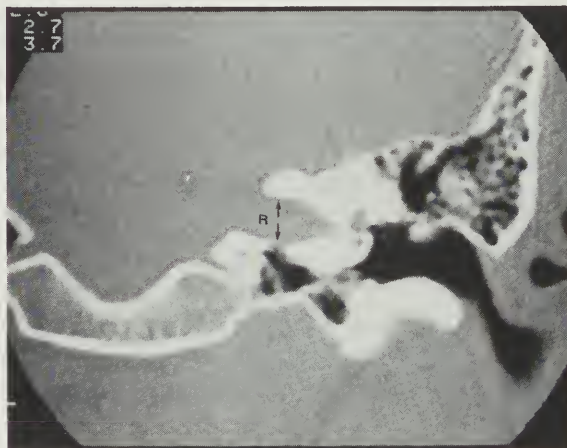


Fig 2 Right petrous bone

High resolution computed tomography in the coronal position, without intravenous contrast, of the left and right petrous bones.

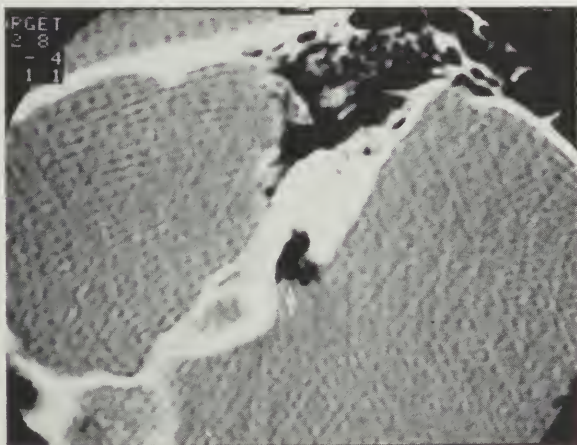


Fig 3 Left

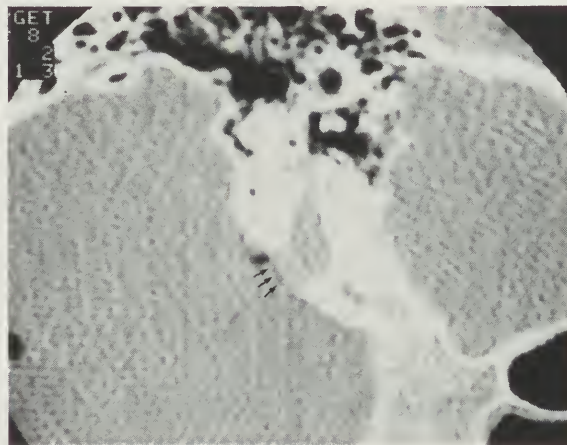


Fig 4 Right

CO₂-CT cisternograms in the axial plane of the left and right internal auditory canals.

For discussion turn to next page.

Radiographic Findings

Figures 1 and 2 show (arrows) the normal (5 mm height) left and enlarged (7 mm height) right internal auditory canals (IAC). There is erosion of the floor and roof of the right IAC. Figures 3 and 4 were obtained after intrathecal injection of CO₂ through a lumbar puncture. These reveal normal filling of CO₂ into the left IAC (white arrows), and lack of filling of the right IAC. The black arrows point to an incomplete meniscus of CO₂ beneath the tumor.

Diagnosis

At surgery, a large acoustic neuroma, approximately two centimeters diameter, was removed from the right internal auditory canal.

Discussion

Due to its high spatial and contrast resolution, high-resolution computed tomography (CT) of the petrous bones is now considered the diagnostic modality of choice in the evaluation of patients with suspected eighth nerve tumors.¹⁻³ The examination preferably is performed with the patient in the prone position with neck extended, to

allow scanning in the coronal plane during intravenous infusion of iodinated contrast. This technique not only allows evaluation of osseous abnormalities of the IAC, which complex motion tomography (polytomography) can duplicate, but can demonstrate soft tissue masses which cannot otherwise be seen. Larger acoustic neuromas may expand the IAC and may be seen as a soft tissue mass, if extending outside the IAC into the cerebello-pontine angle. Smaller tumors, particularly those less than 1.5 cm diameter and those that are entirely intracanalicular, may not be detected by routine CT.

The injection of small volumes of CO₂ through a lumbar puncture provides excellent contrast within the cerebello-pontine angle and internal auditory canal.⁴⁻⁷ This procedure, CO₂-CT cisternography, is a safe one with minimal side-effects, except for headache. The examination takes 30-60 minutes and is easily performed on an outpatient basis. CO₂ readily enters the normal IAC and demonstrates the neurovascular bundle. In the presence of an acoustic neuroma, CO₂ either outlines the tumor outside the canal or produces a meniscus against an intracanalicular tumor.

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COMMENTARY

The Medical Malpractice Crisis in Rhode Island: A Call for Action

Anthony F. Merlino, MD

Once again in 1983, Rhode Island and the rest of the nation are faced with a medical malpractice crisis of alarming proportions. While the crisis in 1975 was primarily one of insurance availability, today it is one of insurance affordability. It is almost as if the clock has been turned back eight years.

The crisis in 1983, as in 1975, is characterized by two rather obvious manifestations: a constantly increasing number of claims and skyrocketing malpractice insurance premiums.

Causes of the Crisis

Perhaps the most cogent reason for the increased number of claims is, ironically, the fact that today's highly-trained physicians are using the latest surgical and medical technological developments. This results in the saving of more lives, but is accompanied by an increase in the incidence and severity of untoward effects and complications in addition to the higher risks inherent in the treatment procedures themselves.

Another cause of the increased incidence of malpractice claims is a type of medical consumerism known as the Marcus Welby syndrome. There is an unreasonable public expectation that every medical treatment will be successful. If not, the doctor either did something wrong or neglected to do something he should have done. We physicians share some of the blame for this situation by failing to communicate adequately to our patients that all is not as depicted in the medical

TV shows or even in the quasi-scientific television mini-news reports extolling the virtues of some treatment or other.

An additional significant cause of the increased number of claims is the relatively new social philosophy that every patient must be reimbursed for any adverse result or unavoidable accident, even in the absence of proven negligence.

The reasons for the astronomical rise in premiums can be attributed to more claims, the increased costs of defending those claims, and a growing number of large insurance pay-outs, including many settlements and awards exceeding one million dollars. Today, as in 1975, the most significant contributing factor to the exorbitant malpractice premiums is the expensive, inefficient, inadequate, inequitable, cumbersome, and time-consuming legal tort system. This is the forum in which most malpractice claims are adjudicated.

Tort Law

The legal philosophy exemplified by American tort law evolved in another era from a rationale which is no longer relevant to contemporary society. In medical malpractice cases, the legal tort system fosters a curious damages arrangement and leads to the unwarranted vast enrichment of non-patient participants, who control the system at the expense of injured patients who only receive approximately \$.17 of every premium dollar. It creates an atmosphere of anxiety and fear, promotes the adversarial presentation of scientific testimony, and is characterized by a general lack of fairness and reason.

The malignant evolvement of the American tort system in medical malpractice cases has resulted in an increasingly liberal interpretation of the doctrines of *res ipsa loquitur*, discovery, and informed consent, and an unwarranted intrusion by courts that have no medical competence into

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the practice of medicine. They assert standards of medical care and attribute blame to physicians where none exists. Such expansion of the law, often on weakly rational grounds, results in greater liability on the part of health care providers for many events over which they have little or no control.

For these reasons, and because of its uncontrollable and unpredictable costs, the present legal tort system should be abolished as the primary forum for adjudicating medical malpractice claims and replaced with a system of voluntary contractual binding arbitration.

Ideally, such a move away from the courts would be in the best interests of all parties concerned, except perhaps for the lawyers. Previous attempts to establish arbitration panels have failed, primarily because most state legislatures are dominated by attorneys. The Rhode Island General Assembly did not favor the concept in 1975 and its chances of enactment eight years later appear remote.

For reasons of practicality, therefore, we were forced in 1975 to attempt to solve the malpractice crisis by seeking changes in the legal tort system. Those changes were aimed at controlling insurance costs by the enactment of measures which would decrease the number of claims and the size of medical malpractice insurance premiums. They would still provide just compensation for injured patients with legitimate claims without interfering with their constitutional rights. Obviously, whatever was done has not been enough because the problem remains with us today in even greater proportions.

Rhode Island Legislation of 1975

Let us briefly examine just what steps were taken in 1975 and 1976 and what remains of those measures today.

Insurance availability on an occurrence basis was guaranteed through the creation of an insurance risk pool, the *Medical Malpractice Joint Underwriting Association of Rhode Island*, in July 1975. For all intents and purposes, the JUA is the only active medical malpractice carrier in the state, despite the fact that a later change in the law allowed the commercial carriers to sell liability insurance in Rhode Island.

Measures to increase control over the quality of medical care were enacted through establishment of the *Board of Medical Review*, which was funded by assessment of Rhode Island physicians and hospitals, and a *continuing medical education* re-

quirement for relicensure on a triennial basis. Both of these remain in effect today.

The following changes in the tort system also were enacted. Except for the statute of limitations, those modifications remain in effect in 1983:

Ad damnum: Before 1975, plaintiffs could sue for a specific dollar amount of damages under a provision known as *ad damnum*. This stipulation was eliminated in 1975, and judges, or juries, are responsible for awarding damages.

Informed consent: The 1976 malpractice law revisions changed the doctrine of informed consent to a preliminary question of fact by the court rather than the jury.

Res ipsa loquitur: Also changed in 1976 was the doctrine of *res ipsa loquitur* ("the thing speaks for itself") to a preliminary question of fact by the court rather than the jury.

Collateral source rule: This was changed to permit disclosure of other sources to prevent duplicate payment for damages.

Statute of limitations: In 1975, the statute of limitations was changed to two years from the incident, discovery, or both, and to 18 years of age for minors. This later was modified to three years and 19 years of age respectively.

Screening panels: A screening panel was created to eliminate frivolous suits. Originally, the screening panels included two attorneys and one physician. Either the defendant or plaintiff could refuse to accept the findings of the panel and proceed to a jury trial, as guaranteed in the Constitution of the United States.

In an attempt to "streamline" the panels, the legislature, with the ill-advised support of the Rhode Island Medical Society, passed an amendment in 1982 changing the composition of the panel to a single judge. The ruling of the judge was absolute and not subject to appeal or progression to a formal jury trial. The plaintiffs' bar supported this patently unconstitutional amendment and immediately appealed its constitutionality on the basis that it deprived plaintiffs of their rights to a jury trial. Predictably, the Superior Court and ultimately the Rhode Island Supreme Court in April 1983 declared the panels to be unconstitutional, thereby removing them from the system.

Effects of the Legislation

Now that we have reviewed briefly what was done in an attempt to solve the malpractice crisis in 1975, we should look critically at any beneficial or adverse effects of these changes.

There have been no problems in Rhode Island regarding the availability of medical malpractice insurance since the creation of the JUA in 1975. The cost of that insurance, however, has continued to climb.

Substantially more medical malpractice claims are being filed currently than in 1975, and losses reported in Rhode Island have approximately doubled during each of the past two years.

Losses paid for physicians and surgeons by the JUA in Rhode Island in 1982 were approximately \$11.2 million, roughly three times the amount paid in 1981. The time between the alleged incident and final settlement or judgment (the so-called "tail") and the costs of settlement have continued to increase substantially during the past eight years. In New York State, the time to settle a case more than doubled and the average settlement costs tripled from 1975 to 1982.

Dealing with insurance company losses, the JUA reported a loss of approximately \$22.3 million in 1982 compared to a 1975 loss of \$2.5 million. Nationally, the medical malpractice combined loss and expense ratio, which are the losses paid plus the loss adjustment expenses and the underwriting expenses divided by the premiums written, was 146.6 per cent in 1982. This means that for every \$100 collected in premiums in 1982, the carriers paid out almost \$150 in claims settlement and overhead expenses.

Finally, all of these factors are reflected in the continually increasing medical malpractice insurance premiums that physicians must pay. Premiums nearly quadrupled between 1974, the last year commercial insurance was available in Rhode Island, and 1975, the first year the JUA operated. From 1976 through 1982, premiums have escalated by a factor of another 1.44. In 1983, the JUA requested an increase of 64.5 per cent on the basic limits premium and 24.7 per cent on the excess limits coverage. A 24 per cent increase was approved.

It is apparent that the present medical liability system, like the Social Security system, is not fiscally sound. This system, which requires a small number of physicians to insure the entire population for medical malpractice and any unforeseen adverse medical results, is a totally unrealistic and irresponsible approach from an actuarial perspective, unless some limits are placed on liability.

It should be emphasized that the present crisis affects everyone, and not only physicians. The costs of the higher medical malpractice premiums eventually are passed on to patients through higher medical fees and charges. Added

to this are the increased costs due to the threat of claims and suits, described as "defensive medicine," estimated in 1975 to be approximately \$4 billion.

Several suggestions are in order as a means of resolving the present medical malpractice crisis in Rhode Island. Of these, the following would require amendments to the existing medical malpractice law:

1. Awards should be structured to spread the payment over the lifetime of the patient, rather than to provide it in one lump sum. This would reduce the costs to the liability system without reducing the benefits paid to the claimant.

2. A reasonable limitation on awards for such non-economic losses as pain and suffering should be imposed.

3. A sliding scale contingency fee schedule for attorneys should place a ceiling on legal fees to prevent windfall payments to lawyers at the expense of the patient, the system, and ultimately society as a whole.

4. An effective pre-trial screening process with built-in time constraints and other appropriate legal sanctions would encourage both sides to expedite the process and still preserve the constitutional rights of both sides to a jury trial.

5. Attorneys for the plaintiff should be required to file an affidavit of merit, certifying to the court that the lawyer has researched and investigated the facts of the case and found reasonable cause for a malpractice action before the suit is filed.

6. Juries should be required to specify the elements of damages to discourage exorbitantly high awards by implementing a more realistic assessment of damages and a more equitable total amount of recovery.

7. The current statute of limitations should be changed from three years to the original two years from occurrence, discovery, or both, and to 8 years of age for minors. Reducing the statute of limitations will allow insurance companies to forecast possible future losses more accurately and result in lower malpractice premiums for physicians and lower medical costs to the public. Also, with respect to alleged claims of negligence in treating infants, a physician has a right to be judged on the standard of care in existence at the time, not that which prevails almost twenty years later.

Another factor which significantly affects the costs of the entire medical liability system is the present unrealistically high 12 per cent interest penalty, which is added to all out-of-court settle-

ments and court judgments, retroactive to the date of the alleged injury. Lobbying efforts should be made to secure passage of a legislative amendment which reduces the interest to a more equitable eight per cent.

A tort reform not recommended is the enactment of a statute permitting countersuit for abuse of process in wrongful, frivolous, or non-meritorious medical malpractice suits. The track record of such suits has been poor in other states, and the chances of getting such a law through the Rhode Island General Assembly are virtually non-existent.

Also worthy of consideration is the present policy of the JUA, which encourages settlement by the defendant physician when the JUA believes that the physician does not have an iron-clad, air-tight defense. The JUA rationalizes such a procedure by claiming that it can settle such cases more cheaply than it can defend them. Unfortunately, such a penny-wise, pound-foolish policy encourages further frivolous suits by plaintiffs and their greedy attorneys.

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Editorial

(Continued from page 304)

had a long standing interest in preventive medicine. As trustee of the Chase Wiggins Fund, he sponsored paper competitions during the period 1905-10 on "tobacco and its evil effects, tea and coffee and their injurious effects, and the dangers of alcohol."⁵

Wendy J. Smith

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Conclusion

The present medical liability system is cumbersome, inefficient, inequitable, and inordinately expensive. It results in excessively high medical malpractice premiums. Based upon current estimates, it has been projected that by the year 1990 as much as 15 per cent of all physicians' bills will go to pay for their medical malpractice insurance.

The present crisis in medical malpractice insurance will affect every patient, every doctor, and every hospital in the state. It is a crisis that directly contributes to the skyrocketing costs of medical treatment and one that will not disappear unless active steps are taken by the medical profession to change the system.

This will not be easy. It cannot be accomplished by physicians acting alone, but will indeed require a dedicated and cooperative effort by doctors, their patients, the business community, the insurance industry, and the legislature. The situation can only deteriorate further without such a combined and concerted effort.

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The Diagnosis and Treatment of Thrombocytopenia and Intravascular Coagulation in Late Pregnancy.

Prompt and Accurate Identification and Correction of the Underlying Problem Is the Most Important Therapeutic Element

James P. Crowley, MD

Disseminated intravascular coagulation (DIC) is not a primary disease, but is a syndrome which follows a variety of obstetrical complications (Table 1).¹ Among the various causes of DIC, abruptio placentae is undoubtedly the most common. When accompanied by fetal death, the incidence of DIC in abrupted pregnancies is virtually one hundred per cent. Also, in descending order of frequency, DIC may complicate toxemia, retained dead fetus, sepsis, acute fatty liver of pregnancy, and, occasionally, even induced or missed abortions.² Because of its rarity, amniotic fluid embolism is the least commonly encountered condition associated with DIC.³

The problem of obstetrical DIC remains one of active investigation, particularly with regard to pathogenesis. Several recent reports have indicated that a number of different mechanisms contribute to the pathogenesis of DIC.⁴⁻⁶ The following review relates these observations to the diagnosis and treatment of DIC in obstetrical patients.

Pathogenesis

The pathogenesis of DIC in pregnancy is multifactorial. During pregnancy there is a relatively enhanced tendency of the blood in maternal circulation to clot, probably on a hormonal basis,

which is occasionally manifested by the development of thrombophlebitis or pulmonary embolism.⁵ Poorly understood changes in the liver clearance of activated clotting factors also occur.^{5, 6} When damage to the placental circulation occurs, tissue thromboplastin is released, which triggers the primed coagulation mechanism. Clotting factors are consumed, and eventually bleeding may occur. Bleeding is potentiated by fibrin degradation products which interfere with platelet function and enzymatic cleavage of fibrinogen by thrombin.⁷ On occasion, widespread clotting may occur in the circulation with a consumption of coagulation factors, but the patient experiences no bleeding diathesis. Platelet function may be better preserved in these patients.

Toxemia differs from the other causes of DIC in pregnancy since it is more often associated with mild hemolysis and thrombocytopenia than with consumption of clotting factors. When microangiopathic hemolysis is brisk, the toxemic patient closely resembles the patient with thrombotic thrombocytopenic purpura (TTP). Indeed, if the syndrome persists after delivery, a diagnosis of TTP is sometimes indicated.⁸ The cause of toxemia and the generalized edema and increased permeability that accompany it is unknown, but lesions in the kidney suggest that endothelial damage has occurred. Thus, the isolated thrombocytopenia which occurs in toxemic patients may be related more to endothelial damage than as a consequence of a triggering of intravascular coagulation by thromboplastin. DIC may occur during the eclamptic phase, but at this point, it may be due to secondary placental damage with the consequent introduction of thromboplastic materials into the maternal circulation. Occasionally infants born to toxemic mothers are

Presented at a conference on "The Obstetric and Anesthesia Management of the High Risk Mother and Fetus," Women & Infants Hospital, Providence, Rhode Island on April 16, 1983.

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thrombocytopenic.⁶ In the past this was often attributed to drugs given for hypertension or edema (*viz* thiazides, hydralazine), but this association may be coincidental. Infants have been born thrombocytopenic whose mothers have received no antihypertensive or seizure medications. The low birth weight of these infants indicates that placental insufficiency has occurred. At present, it is not known whether the low birth weight is secondary to vascular occlusion or whether some other problem, such as chronic rejection because of an unmasking of immune tolerance to placental antigens, is also responsible. Work is needed on the immunopathology of the placenta and the lymphocyte subpopulations

Table 1. Obstetric Causes of the Disseminated Intravascular Coagulation Syndrome (DIC)

Abruptio placentae
Toxemia of pregnancy
Prolonged retention of a dead fetus
Amniotic fluid embolism
Septic abortion
Acute fatty liver of pregnancy
Saline abortion

of the mother and fetus in toxemia to better our understanding of immune-mediated placental alterations that may produce thrombocytopenia in both the mother and child.

Although there is no depression of plasminogen, it has been demonstrated that the functional fibrinolytic mechanism is depressed at the time of normal delivery.⁵ This is a useful homeostatic mechanism that prevents localized bleeding. Perhaps, as a consequence, fibrinolysis is generally not severe in the DIC of pregnancy. However, when brisk vaginal bleeding continues after the products of conception have been delivered, it is likely that local fibrinolysis has been activated. In this instance enhanced local fibrinolysis may play a causal role in the continued bleeding.

Since the coagulation factors are elevated during pregnancy, reduced production is not usually a cause of continued bleeding during or following obstetrical DIC. However, abnormalities of liver function are common in patients with toxemia, particularly when hypertension has been severe.⁶ A syndrome of hemolysis, elevated liver tests, and low platelets (HELLP), in which inadequate synthesis of clotting factors may occur, has been described.⁶ In rare instances, overwhelming liver failure has resulted in maternal death.⁹ The relation of the abnormalities in tox-

emia and DIC are presently unknown, but a recently described animal model of toxemia is accompanied regularly by severe hepatic alterations.¹⁰

Diagnosis

The diagnosis should be suspected immediately when unexpected abrupt and fulminant hemorrhage develops at any time in late pregnancy. The identification of the specific obstetrical complication (Table 1) usually is not difficult. Laboratory studies (Table 2) show prolongation of the partial thromboplastin time (PTT) and prothrombin time (PT) and depression of the platelet count. In contrast to DIC which complicates other medical

Table 2. Laboratory Studies

Screening Studies
Complete blood count with platelet count
Blood smear evaluation
Prothrombin time (PT)
Activated partial thromboplastin time (PTT)
Coagulation Studies
Single tube clotting time
Bleeding time
Fibrinogen level
Fibrin/fibrinogen degradation products
Clot retraction
Factor studies, V, VIII, X
Thrombin clotting time
Ancillary Studies
Serum Glutamic Oxaloacetic Transaminase (SGOT)
Lactic Dehydrogenase (LDH)
Blood Urea Nitrogen (BUN)
Urinalysis
Reticulocyte count
Coombs test

problems, a more prominent and severe hypofibrinogenemia as well as very high titers of fibrin degradation products are regularly noted in obstetrical DIC. As previously mentioned, toxemia differs from other obstetrical complications in showing lesser changes in the coagulation mechanism, but greater changes in the degree of thrombocytopenia and microangiopathy of the red blood cells.^{4, 11}

The differential diagnosis of DIC (Table 3) includes immune thrombocytopenic purpura (ITP), vasculitis, and rarely a malignant lesion and thrombotic thrombocytopenic purpura (TTP). This latter entity has been recently recognized with increased frequency in southeastern New England.¹² The tests listed in Table 2 are useful in establishing the diagnosis and excluding other causes of bleeding. However, some of these

are not very useful for following the course of the disorder. Monitoring of the patient once the diagnosis of DIC is firmly established can best be accomplished with the fibrinogen, fibrin degradation products, and platelet levels. Unless heparin is administered, the prothrombin time and PTT are also helpful to monitor the bleeding tendency. The fibrinogen level is the single most useful and most readily obtainable test to determine whether the patient is improving or worsening.

Treatment

As with most syndromes complicating a primary disease, prompt and accurate identification and correction of the underlying problem is the most important element in therapy. The removal of the fetus and placenta results in rapid cessation of DIC from any cause, and this is a cardinal principle of management.^{1, 11, 13} Important supportive measures include correction of hypoxia and hypovolemia and the rapid replacement of lost blood with packed red blood cells. With evacuation of the uterus, transfusions of platelets or fresh frozen plasma are generally not very effective in controlling bleeding, but on occasion they do seem to make a difference.

Table 3. Differential Diagnosis

Immune thrombocytopenic purpura (ITP)
Thrombotic thrombocytopenic purpura (TTP)
Malignancy
Liver disease
Sepsis (including purpura fulminans)
Trauma

The infusion of the procoagulant substrates in plasma may increase fibrin degradation products which inhibit both platelets and the coagulation mechanism and, paradoxically, thereby potentiate bleeding.¹¹ Fortunately, clinical experience has indicated that this rarely occurs. Indeed, the replacement of consumed fibrinolytic inhibitors and antithrombin by the administration of fresh

frozen plasma may serve to offset any deleterious effects of adding more substrate for clotting. The unacceptably high frequency of viral hepatitis has resulted in the abandonment of fibrinogen concentrates as therapy for DIC, but cryoprecipitate is still useful when volume considerations preclude plasma administration.^{1, 11}

Heparin will almost always inhibit clotting that is related to the release of thromboplastic substances into the blood stream, but its routine use in DIC has always been controversial since heparin itself may induce or worsen bleeding.^{1, 11} Although highly effective in terminating clotting, heparin should be reserved for the rare patient in whom brisk bleeding continues after evacuation of the uterus, who has been adequately transfused with plasma, and yet who shows continued laboratory evidence of severe DIC. If the patient is bleeding and already anticoagulated by the consumption of clotting factors more than would be expected from therapeutic use of heparin (*viz* PTT > 2½ x normal), the risk of worsening the bleeding tendency further would be minimal and the administration of heparin should be strongly considered. Plasma should always be given with heparin, since heparin acts through antithrombin III which is consumed in DIC.

Heparin is rarely indicated in toxemic bleeding since the bleeding is related more to thrombocytopenia than to the consumption of clotting factors.^{1, 4} When thrombocytopenia is severe, or is accompanied by significant hemolysis, or both, a brief course of corticosteroids may hasten recovery of the platelet count and diminish hemolysis. However, corticosteroids may worsen the hypertension and are usually not necessary, since the hematologic problems of toxemia virtually always improve in a day or two following delivery.⁶ In the very rare patient who continues to have thrombocytopenia and hemolysis, the diagnosis of TTP must be considered and an attempt made to show the characteristic microthrombi in skin or mucosal lesions. Plasma exchange may be lifesaving in this condition and should be considered an integral part of management.¹²

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HAVE YOU HEARD? . . .

Nutrition News, a publication of the American Dairy Council, recently included a detailed report on the importance of trace minerals in human nutrition.

Among the minerals discussed were chromium, copper, manganese, selenium, and zinc: 1) *Chromium* is found in brewer's yeast, corn oil, clams, whole grain cereals, and meat. A chromium deficiency may upset the function of insulin and result in depressed growth rates and severe sugar intolerance in diabetics. It also is suspected that the deterioration of glucose tolerance in pregnant women may be related to a lack of chromium. 2) *Copper* is found in green leafy vegetables, legumes, whole grains, and almonds. Deficiencies of copper are rare, but have been found in people who consume excessive amounts of zinc. Patients with sickle-cell disease are sometimes treated with zinc acetate to relieve pain and shorten the episodes of illness. 3) *Manganese* is necessary to trigger many enzyme reactions, and deficiencies can result in defects in such organs as the liver, kidneys, heart, and pancreas. Good sources of this trace element include whole grains, egg yolks, and green vegetables, but the content will vary depending upon the richness of the soil where the crops and chicken feed are grown. 4) *Selenium*, necessary for the body in minute amounts, is extremely toxic. It works with vitamin E to promote body growth and fertility. It is a natural antioxidant and seems to preserve the elasticity of tissue. The richest sources of selenium are fish, kidney, and liver. 5) *Zinc* is found in foods high in protein. More than 100 enzymes involving zinc have been isolated and are essential

in the metabolism of carbohydrates, fats, and protein. The causes of zinc deficiency include poor diet, alcoholism, liver disease, malabsorption, chronic kidney disease, genetic disorders, and medical treatments which reduce zinc. The signs of zinc deficiency range from low sperm count and weight loss to bullous-pustular dermatitis, frequent infections, and emotional disorders.

• • •

According to a report in the June 1983 *American Journal of Diseases of Children*, violence against children is a leading cause of pediatric mortality. Janine Jason, MD, of the Centers for Disease Control, notes that deaths resulting from child abuse represent only one aspect of the problem. "The other component, which is often ignored, is homicide of preadolescents and teen-agers." In victims 12 years of age and older, homicide typically occurs outside the victim's family and involves guns and knives rather than physical force.

• • •

According to a report in *Family Physician*, the journal of the American Academy of Family Physicians, a 35 cm fiberoptic sigmoidoscope provides a "cost-effective method" for family physicians and other non-endoscopists to detect colon and rectal carcinomas. The report notes that the instrument overcomes most of the limitations of a rigid proctosigmoidoscope with only a moderate increase in cost. It is designed to be used with

(Continued on page 334)

Contract Medicine in Rhode Island

Author Suggests Reform, Rather Than Abolition, of a Common Practice in the Early 1900s

George S. Mathews, MD

A young man is no longer young after spending his years up to seventeen preparing for college, with four years added for his AB or science degree, four years more in medical school and two of hospital internship, when he is twenty-seven and ready for the practice of his profession. At least two problems in medical sociology then confront him. First, there is the present-day trend to medical socialism. Owing to the great advances made in preventive medicine, the Municipality and State are taking upon themselves much, and more is coming. With school inspection, with the police surgeon, with sputum and Widal examinations, with free consultations in doubtful contagious cases, are we coming to free medical attendance as we are provided with free public schools? Doctor Arthur Newsholme, the distinguished English sanitarian, and Doctor [Charles V.] Chapin, the able Superintendent of Health, of Providence, Rhode Island, see great possibilities in this extension. Another problem, and an earlier one, is the combination of clubs, lodges, and organizations, for the insurance of their members for medical attendance as well as for weekly benefits.

The Distribution of Lodge Practice in Rhode Island

During a presidential campaign the Democratic candidate was greatly ridiculed for uttering what

was subsequently acknowledged as a fact, *viz*, that the tariff question was a local issue. Lodge practice in Rhode Island is in a measure a local issue. In the rural districts and in the small towns, the lodge doctor is almost unknown. Some sections of every city in the state are free from it. In other sections it is almost as rampant as it is in the East Side of New York City. In Pawtucket, Central Falls, Lonsdale, and Woonsocket, it is very widely distributed, as also in the Olneyville, Mount Pleasant, North End, and South Providence sections of Providence. In Pawtucket the district society has made the lodge doctor ineligible to its membership, and accordingly ineligible to the State society. The members are under agreement not to consult with contract doctors. As a matter of fact this agreement is very loosely observed.

Three years ago the South County Society refused to a man to do contract work for lodges and cut-rate insurance work. In Westerly the lodges then combined with some insurance companies and imported a doctor from Providence to do their work. He was never recognized by the South County Society, and for various reasons has been given up by most of the lodges and all of the insurance companies. So that now there is very little "lodge doctoring," and no life insurance examinations are made for less than \$3.

In Newport it is estimated that out of a population of 25,000 there are 1,500 wage earners who belong to lodges entitling them to a contract doctor.

For convenience lodge practice may be classified: private clubs, lodges and fraternal organizations, and shop and work organizations. Accident work in mills and for railways are not included in this paper. In like manner the army, navy, marine hospital services, superintendents of health, school inspectors, police surgeons, and other contract medical work of city, state, or nation are not envisaged as consideration of these would open a much wider field than is the scope of this paper.

Reprinted from the Bulletin of the American Academy of Medicine, 10:599-606, 1909.

George S. Mathews, MD (1862-1950), was an internist in Providence, Rhode Island. He was on the staff of Rhode Island Hospital for more than 35 years, and served as President of the Rhode Island Medical Society during 1921-22. This paper was presented on June 9, 1909 as part of a symposium on contract medicine sponsored by the American Academy of Medicine.

Private Clubs

Under this heading may be considered aggregations of men under the control of the medical man who organized them. Among a foreign element of the north end of Providence and among the same class in South Providence there are numerous small clubs. Ten or a dozen families are gotten together, with a fee for the medical man from each family of from \$3 to \$5. This price includes medical attendance upon every member of the family. Surgery, obstetrics, and medicines are not included.

The largest private club classes itself as a hospital, The Emergency Hospital. There are two men employed to canvass shops, factories, and stores to obtain members. For one dollar a year treatment at the office for medical or for minor surgical afflictions is furnished. A small fee is charged for medicines. House visits are not included. The membership in this hospital scheme is large, and two doctors are in attendance.

Private clubs have the full management in the control of the physician. The rules are of his making. The evils and possibility of evils in this form of combination are many, but after all, the medical man is at the helm and can throw overboard any one who interferes with the smooth sailing of his commercial craft. In this plan the patient does not get as much for his dollar as does the lodge patient, in that house calls are not included, and furthermore, drugs are not given gratis.

Lodges and Fraternal Organizations

Of these in Rhode Island there are many kinds, and many branches of the same organizations. The English, Irish, Scotch, Germans, French-Canadians, and Jews have clubs employing the contract doctor. The Manchester Unity, Foresters, Sons of St. George, Eagles, Owls, and others are in this number. The rates for the physician vary from \$1 to \$2.50 per member per annum. In Providence one of these lodges numbers about 1,200 members. This lodge pays its doctor \$2, but this price includes medical attendance on the entire family. In this instance the physician's clientele must be between 4,000 and 5,000. Surgery and obstetrics are not included.

Among the Jewish people of Providence, it is estimated that one-third have contract doctors. In the Olneyville and Mount Pleasant districts of Providence, it is estimated that 50 per cent of the wage-earning men are members of lodges employing contract doctors. In the populous Pawtucket Valley mill towns at least six medical men

who are members of the Kent County Society are engaged in lodge practice.

Works and Shop Organizations

A number of factories and shops have organizations of employees for beneficial purposes. These admit men and women. In several instances do the benefits extend to the employment of an organization or factory doctor, who is hired from year to year at an agreed price per member. In one factory there are two clubs, the one having a membership of about 700, and the other of 400. In the larger club, the physician is paid \$2.25 a year per member. This fee includes the furnishing of medicines. The smaller club pays \$2 a year for similar services. In both clubs the doctor of each club makes a daily call at the factory to see what names appear on the slate kept for the purpose of registering any office calls at the shop. The number of calls varies, but in the larger club averages from 15 to 35 a day, together with two or three house calls a day. From this can readily be computed the rate of pay secured for services rendered. In the small club there is much less work proportionately. The smaller club includes many who belong to the larger one and is more exclusive in its membership. It is limited to those who get at least \$12 a week. Some of the members get as high as \$30 a week. The average weekly wage in the larger club is from \$10 to \$15 a week.

Sentiment of the Profession

In discussing the subject of lodge or contract practice with a large number of medical men who engage in it, it was found that in but a few instances was there an ardent advocate of the present system. Those who favor it claim:

That there is nothing unethical in it.

That the remuneration is nearly as good as that received in regular practice among the lower classes.

That insurance against a doctor's bill is quite as proper as insurance against any other contingency. That the more provident poor man is to be encouraged, with his weekly wage, perhaps, at \$9 or \$10 a week and a Rooseveltian family. That the small contribution of \$1.50 or \$2 a year for services rendered is something. That this same poor man uninsured would contract a medical bill never paid or else become a free hospital patient. That the natural tendency is to be improvident, and that from good economic grounds the workingman of modest income should be encouraged to insure against all possible contingencies. That the expenses of a prolonged illness of the unin-

sured bread winner not only cut off all income, but also, Pelion upon Ossa-like, piled up a doctor's bill, leaving the well-intentioned toiler hopelessly crushed.

That the hospital and the dispensary are much greater abuses than the lodge doctor.

That the objection sometimes made of slovenly and slipshod diagnoses is not well taken. That on the contrary extra care is taken, if for no other reason than that of keeping the patient satisfied and the lodge contented.

That the respect of the lodge doctor is lost only in rare instances, and that the fault then is a personal one, and not due to the system. That when the work is carefully and conscientiously done it is appreciated.

The advocate of lodge practice considers, too, that especially in the beginning of a young physician's career there is opened up a field of clinical experience that he would not have unless he is fortunate enough to be on the out-patient staff of some hospital; and that the care and treatment of the lodge patient entails more personal and scientific interest than that of the nondescript out-patient.

In canvassing the members of the Rhode Island Medical Society on this subject, it was found that nearly every one is opposed to the present system. This feeling is not confined to those who once did it but who have discontinued it, but the most earnest opponents are usually those who are still engaged in it. Among the objections a few are presented:

That it is unethical and unfair to the profession.

That it is immoral in that it is a gamble. That the man who, for \$1.50 or \$2 a year, receives the services of a physician to the extent of many times that amount is getting very much for very little. That, on the other hand, the man who gets no return for his outlay is getting a gold brick.

That the great medical profession is degenerating to the rankest commercialism in the dicker-ing, underbidding methods sometimes employed. It is related that in one lodge two members in good standing in the State Medical Society openly in lodge meeting underbid each other. One volunteered his services at \$2 a head. The other dropped his price to \$1.75. The first bidder then acceded to this price with medicines furnished. This occasioned a drop in bidder No 2 in his price to include medicine and minor surgery. To the vast credit of the lodge, neither bid was accepted but a non-bidder was given the job at \$2. Barroom treating and saloon methods of elec-

tioneering are sometimes adopted. The effect of all this not only on the profession but also on the laity is only too plain.

That the increasing expense incident to obtaining the required efficiency to engage in the practice of medicine should make the fees commensurate with the time and money spent in obtaining this proficiency.

That the present conduct of lodges is inconsistent with fair play, in that the medical profession has nothing to do with their management. That the lodge doctor is hired or fired at the caprice of a small clique to whose behests he has been unable to bow. One physician relates that he lost his position in a large organization because he refused to meet a committee composed entirely of working men who were asked to pass judgment on his professional handling of a man who claimed that he was getting improper medical treatment for his disease.

That no little of the work imposed on the doctor is unreasonable. That unreasonable hours for sending for the physician are wont to be the habit of some of the members. That the lodge member is apt to be most exacting in his demands.

That the lodge man who in his union is most exacting in his demands as to time and money does not observe the golden rule toward the lodge doctor in that he is depressing the yearly stipend of the doctor.

That the lodge doctor is forced upon some who voted for and preferred some one else.

That the tendency is for hasty, indifferent work on the part of the lodge doctor.

That, in fine, from the point of view of the public, of the medical profession, and of the individual doctor, it is an evil.

The Remedy

The strongest advocate of the present system admits that there are some evils connected with it. The severest critic, on the other hand, must admit that under certain conditions there may be a grain of good in the bushel of chaff. In the lowest social scale there is such poverty, or improvidence, or both, that no successful effort is made to look out for the future. These people fall to the lot of charity in case of illness. As the social and industrial scale rises higher one comes to the more provident whose earning power is greater than the lowest but still unable to stand the buffetings of untoward circumstances. What is to be done with the man of very modest wage and with a large family?

The remedy the writer would suggest is that tentatively proposed by a committee of the British Medical Association several years ago, after it had made a most painstaking investigation.

First, let there be lodges or fraternal insurance companies, but have the doctor paid a fee, even in bulk, more in proportion with the work done.

Second, let the membership in these organizations be limited to those whose wage is incommensurate with the needs of the family.

Third, have the medical management of the lodges in the hands of the local medical society, or a committee of the society.

Fourth, have those physicians who are willing to do this work form a directory from which the individual lodge member may make his selection of his physician.

Are these propositions too Utopian? If they are practical, much will be accomplished. Nearly all that is objectionable in the present scheme will be avoided. The return for services rendered will be

in better proportion. The benumbing effect of ill-bestowed charity will be escaped. The medical man and the profession will avoid the disgrace that at present justly befalls it.

It is questionable whether trade union methods and the boycotting of members of the profession who engage in contract practice is a wise and dignified procedure. Some of the best members of our State Society have engaged in this work honorably and conscientiously. Some have gone into it innocently, without warning or instruction in medical school or of colleagues. Some of the men who scoff the loudest, now that they have an assured income, gladly would have taken it up earlier had a favorable opportunity presented. During the "crumb" stage of a physician's career, the plan proposed will avoid the glaring wrongs of the present demoralizing practice. Even when the "bread and butter" or the "cakes and ale" stage arrives the medical man cannot be indifferent to the problems presented. ■

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PRESIDENTIAL ADDRESS

Coalitions, Consumers, and the Society

Melvin D. Hoffman, MD

A few days ago, I joined a small group of physicians who were heatedly discussing a common subject — the changes in medical care currently being advanced and how they are affecting physicians. One doctor told a story about a young man just out of his residency in medicine who joined a small group of physicians employed by the Humana Corporation. His contract guaranteed \$60,000 per year, vacation, and time for education. His weekly commitment was only 30 hours because the group was still building its patient load. Our conversation then ranged from the changing relationships between physicians and their hospitals, to varying charges among subspecialists, appropriate remuneration for cognitive skills, higher malpractice insurance rates, the potential effects of diagnosis-related groups, preferred provider organizations, and how such problems will be aggravated when the promised glut of physicians reaches its maximum. I have heard such conversations often repeated with minor variations wherever I have traveled.

This vignette emphasizes the problems — many of which are national in scope — facing the physician of today. A number of federally-sponsored programs have evolved from the concept of guaranteed reimbursement for health services which was first proposed by Theodore Roosevelt during his 1912 presidential campaign. Private health insurance was initiated and is now widely available. Medicare and Medicaid were implemented. Union contracts contain a medical benefits package estimated to cost about 30 per cent of the price of all goods produced by union



Dr. Hoffman

labor. As the result of rapid expansion, the costs of hospital care have risen exponentially. Salaries of nursing and other support staff now better reflect the worth of these individuals. The employee-to-bed ratio in hospitals is higher despite the introduction of labor-saving devices and methods. Expensive technology has been introduced and has often soon become obsolete.

In the past thirty years, health care costs have increased from four per cent of the gross national product to the present 12 per cent and are on their way to a predicted 15 per cent. At the same time, life expectancy has risen from sixty-odd years to the present level of seventy-three plus years. The American people are being told from many sides that improved health care is not worth the cost. A drive to reduce health care expenses increasingly is becoming national policy. Somewhat like the seven people who fight over six apples, we as health providers are pointing the finger of blame at one another. We must join

Melvin D. Hoffman, MD, served as President of the Rhode Island Medical Society from 1982 to 1983. This paper is adapted from his address at the 172nd Annual Meeting of the Society on May 25, 1983.

together to find a way to divide the shrinking resources for health care in a fair method. The American Medical Association is doing just that with its Health Policy Agenda for the American People. This program has brought together a coalition of physicians, labor, business, government, and others to propose and discuss methods of dealing with many of the problems I have briefly mentioned.

I doubt whether colloquies such as the conversation described earlier in this paper will accomplish much except to provide a short-lived relief from frustration. Little can be accomplished on a local level to change or stop these national trends. To waste our energies this way would place all of us in the position of King Canute who sat on his throne and drowned when his order to stop the incoming tide was ineffective.

I do not accept the concept that we have been deprived of all control and influence over our affairs. Using the prerogatives and platform afforded to me as President, I should like to propose a few ways to approach these national problems on a local basis and as individual physicians.

Coalition of Health Providers

The Rhode Island Medical Society, along with the Hospital Association of Rhode Island, Blue Cross/Blue Shield of Rhode Island, Brown University, the Ocean State Master Health Plan, and others should meet periodically to exchange information and educate one another. Some room for local initiative exists in most of these programs. When local consensus suggests a different approach, we can petition our respective national organizations for changes. There are already enough suspicions that one or more groups are out to dominate the health care system at the expense of the others. While a power struggle does indeed exist, my naivete allows me to hope that a common meeting ground can be found without significant loss of autonomy. A necessary ingredient of the process is a mutual respect for each other's concerns.

The Rhode Island Medical Society has already formed liaisons with several elements of the health care system. These should be strengthened. As an example, regulations from the Federal Trade Commission have severed the bonds that formally linked the medical society with Blue Cross/Blue Shield of Rhode Island. We have recently agreed that representatives of the Society and of the Blues will meet on a regular basis to share mutual concerns.

The Society and Consumer Organizations

Another, and as yet undeveloped opportunity exists for organized medicine to form an alliance with consumer advocacy groups. Most physicians participate in the activities of at least one consumer or civic organization. Their participation often enhances the individual's image, but there is little opportunity to affect the public impression of physicians as a group.

I believe that the Rhode Island Medical Society should actively seek liaison with consumer groups. We should also consider including nurses and medical assistants in the alliance. The resulting dialogue would expose us initially to some accumulated resentment toward the profession, but later might lead to the development of constructive approaches. The controversy between consumer groups and proponents of the recently-approved relocation of Women & Infants Hospital provides an example. I attended some of the debates and followed the discussion of the issues in the press. Advocates of the move cited the need for improved obstetrical and gynecologic care. At the same time, consumer organizations maintained that the funds needed to finance the move could better be spent in providing more birthing suites, extending outreach programs, and expanding the home delivery program. I have the distinct impression that the various groups did not really listen to one another. A physician liaison group may well have clarified the issues for both proponents and concerned citizens and resulted in improved care together with expanded programs. This could still happen.

Physician-Patient Relationships

In any encounter between physician and patient, there is often a gap between expectation and reality in the eyes of both. The patient expects services to be convenient, comprehensive, and reasonable in cost. The perception, however, may be that the service is inaccessible, episodic, and expensive.

Patients expect that doctors will be caring, compassionate, and competent. The patient may understandably become resentful if the care turns out to be paternalistic and indifferent, or if an adequate explanation is found wanting. The physician wants his practice to be founded on sound scientific principles, and intellectually challenging, ethically based, and financially rewarding. In reality, he often is bogged down in paperwork and swamped by trivial complaints. The impact of technology, government regulations, patient demands, and third-party require-

ments creates constant demands on a physician's time and challenges his integrity. Costs, swept up in an inflationary vortex, combine with third-party pressures to limit the physician's income. He is often exasperated by patients who are distrustful, challenging, and unwilling to follow his carefully thought-out treatment plans.

Patient care is influenced by national trends. The many demands on a physician's time and energy, keener competition created by more practitioners, and the expansion of corporate and hospital practice challenge the doctor's judgment, lead to frustrations with hospitals and other institutions, and add to the difficulties of maintaining good relationships with his patients.

The Society can offer assistance with courses on the establishment, building, and maintenance of medical practices. Further, the Society can help by presenting to the media a realistic image of the physician. But, after all, the physician individually must work to improve his image with each patient.

In summary, the many forces being turned loose on the national scene will alter the practice of medicine irrevocably. The profession must

marshall support for proven methods of quality care and object when new and untried programs — intended primarily to limit costs — threaten such care. Organized medicine, together with the leaders of business, industry, and labor, can address the national issues and philosophies affecting health care. Local societies can and should develop grass-roots solutions to many of these problems.

American medicine did not become a leader in the world through callousness, indifference, or avarice. We must organize well and provide continuing leadership of the sort that has elevated us to eminence in the delivery of medical care. The Rhode Island Medical Society can lead the way locally by forming a coalition with other providers and by opening the dialogue with consumer organizations. We must work to improve our patient and physician relationships. Individual confidence and trust in the physician does not just happen. It is the result of care and planning. All of us can do better.

I am grateful for the opportunity to have served the profession in Rhode Island during the past year. ■

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EDITOR'S MAILBOX

Lone Star Tick Sighted in Newport County

To the Editor:

An unengorged female tick, later found to be infected with a spotted fever group rickettsiae, was removed from the pant leg of a workman in Newport County, Rhode Island, in March 1983. He was cutting brush in the National Estuarine Sanctuary on Prudence Island at the time.

Doctors R. A. LeBrun and K. E. Hyland, University of Rhode Island, confirmed that the insect was a Lone Star tick (*Amblyomma americanum*). Doctors L. A. Magnarelli and J. F. Anderson, Connecticut Agriculture Experiment Station, later determined that the tick was infected with a rickettsia-like organism.

This species of tick, which is endemic to the southeastern United States, has rarely been reported in New England. Several sightings, however, have been made during the past thirty years. John A. Mathewson in 1955 reported finding this tick species in Hopkinton (Washington County) the year before.¹ He also indicated that

one specimen was reported by Brayton Eddy, but not published in the 1943 USDA Economic Insect Survey of Rhode Island.¹ A 1980 paper noted that Lone Star ticks were removed from human beings in June 1943 and July 1976. The most recent report was of three Lone Star ticks removed from a dog who had just been moved from South Carolina to southeastern Connecticut.³ Magnarelli concluded that dogs have an important role in disseminating this tick because they often travel with their owners during family moves from infected areas.³ It is still not clear, however, how the most recent sighting may have come to an unpopulated portion of this small Narragansett Bay Island during late winter.

James E. Myers
Principal Wildlife Biologist
Rhode Island Division of Fish and Wildlife

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- ² Anderson JF, Magnarelli LA: Vertebrate host relationships and distribution of ixodid ticks in Connecticut. J Med Entomol 17(4):314-323, 31 Jul 80.
- ³ Magnarelli LA, Anderson JF, Philip RN, et al: Antibodies to

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- ⁴ Clifford CM, Anastos G, Elbl A: The larval ixodid ticks of the eastern United States (*acarina-ixodidae*). Mis Pub Entomological Society of America 2(3):215-237, 1961.

Peer Review Organizations

To the Editor:

The enactment of legislation introduced by Senator David Durenberger (R., MN) to establish peer review organizations (PROs) has caused some confusion in the minds of those who have attempted to distinguish between PROs and PSROs. Basically, Senator Durenberger, a proponent of peer review for many years, believes that the quality of medical care can be reviewed only by physicians. The PRO bill itself has made no substantial changes in the previous PSRO statute, but there are some changes worthy of note:

First, it has removed the "stigma" of the PSRO being considered strictly a bureaucratic organization as part of the regulatory super-structure or, in the words of some critics, an arm of the government. It, therefore, competes with all other major providers, third parties, and health facilities. In short, it encourages private review and private contracts for review. In fact, this incentive has aroused great interest throughout the country among corporations, peer review groups, and business coalitions.

Second, it provides that review be carried out basically in a non-delegated manner, although final guidelines have not yet been distributed.

Third, it provides that PROs not be considered federal agencies under the Freedom of Information Act (FOIA).

Fourth, it consolidates geographic areas and eliminates state councils and advisory groups.

The American Medical Association and members of the profession have raised the question of quality. The original program did call for adequate monitoring of quality, but unfortunately, with the change in the administration in the Carter years, there was a constant leaning towards cost.

With the advent of the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA), to be followed in October 1983 by the prospective payment system by diagnosis-related groups (DRGs), quality again will be a major consideration in light of the reversed hospital reimbursement incentive.

For the Rhode Island PRO, or any other review organization, to perform in the manner that will be expected, there must be ample physician input. For example, the current review responsibilities for peer review organizations as outlined by the Health Care Financing Administration include: admission review; transfers to psychiatric and rehabilitation units; procedure review, such as pacemaker insertions and ancillary services;

review of outliers, eg, hospital stays that exceed the normal length of stay for the DRG; readmission within seven calendar days of discharge from an acute facility; validation of the DRG; and monitoring of quality, including premature discharges.

Under the original PSRO law (PL 92-603, Section 249F), the statute mandated that PSROs review medical necessity, appropriateness, and quality of care. Simultaneously, it was clearly intended in the statute that patients receive quality care in the most economical manner possible.

The new responsibilities of peer review organizations are clearly fixed. It is incumbent upon doctors to apply their experience and talent to assure continued quality care under the prospective payment system for hospitals, which will attempt to save money for the Medicare program. This is really not surprising when one considers that Medicare will spend \$38 billion for hospital care alone. It would seem obvious from the peer review mandate that only an organization of physicians can carry out this function properly. There is no doubt that the challenge is immense, but the opportunity great.

Alton M. Paull, MD

President

Health Care Review, Inc.

(formerly Rhode Island PSRO)

For more on *Health Care Review, Inc.*, please see page 294. Ed.

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In the September Journal:

Three papers on Alzheimer's disease and its social, economic, and human ramifications

A review of *The Social Transformation of American Medicine*

A commentary on Brown University and the practice of surgery



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Have You Heard? . . .

(Continued from page 322)

minimal training and enables the physician to examine the entire sigmoid colon. The American Cancer Society recommends sigmoidoscopic examinations every three to five years (after two initial negative examinations one year apart) in patients 50 years of age or older and more frequent examinations at an earlier age for high-risk patients.

• • •

The Ares-Serono Group currently is testing a substance, TP-1, which researchers hope can be used to treat primary immunodeficiencies, a condition in which there is partial or total collapse of one or more classes of immunological responses. TP-1, generically known as Thymostimulin Serono, is a hormonal extract of calf thymus gland. It also is used for the treatment of secondary immunodeficiencies resulting from age, viral diseases, or the use of certain therapies such as chemotherapy for cancer. Because thymostimulin enhances immune responses, it is a new approach to treating viral infections. Whether it may have value in acquired immunodeficiency syndrome was not mentioned in the report.

• • •

The Orthopedic Products Division of 3M recently announced the development of a new polymer plaster bandage that is strong, light, and water-resistant. The 3M Pearlcast® polymer plaster bandage is cleaner to use than the leading plaster product. The company claims that plaster loss is minimal because the plaster in the Pearlcast bandage contains polymer, an adhesive which helps it remain in the bandage. The new material molds and laminates easily and exothermic reaction is low. Pearlcast material is available in fast-setting (5-8 minutes) and extra fast-setting (2-4 minutes) bandage rolls and splints. Cotton stockinet and cast padding also are available.

• • •

Cyclosporine, a potent immune system-suppressing drug used in preparing for transplant surgery to prevent rejection, may also be effective in stopping rejection episodes that occur after surgery, according to a group of Finnish physicians writing in the June 1983 *Archives of Surgery*. Organ rejection was averted in four of six kidney transplant patients following administration of cyclosporine alone or in combination with corti-

costeroids. Cyclosporine may fight some types of rejection better than others, the authors claim, depending on the type of immune system response involved. On the basis of this study, the authors believe that the drug may indeed modify a pre-established inflammatory episode of rejection.

• • •

General Electric recently announced development of the MaxiCamera® 500A system, a new nuclear gamma camera which has a 500 mm detector and 91 photomultiplier tubes. It features Autotune ZS® circuitry, which provides excellent linearity and uniformity for high-resolution images. The detector can be positioned for both anterior and posterior views without moving the patient.

• • •

The Medical Products Division of 3M Company recently developed a new line of electrocardiogram (ECG) electrodes designed to provide more efficient adhesion with less mess. The new Red Dot® electrodes use a solid, rather than wet, glue. They stay in place and conform well to body contours. Because the solid gel leaves virtually no residue, it will not interfere with an initial repositioning of the electrode. In addition, solid gel does not require a rigid retaining ring to confine it to the center of the electrode.

• • •

According to a paper in the June 1983 *Archives of Otolaryngology*, a new form of electrical stimulation may offer relief from severe head and neck pain resulting from cancer. William Bauer, MD, of the Case Western Reserve University Medical School, reports on three representative cases in which an extremely low-frequency, low-amperage AC electrical charge offered effective relief from chronic pain. The researcher postulates that the mechanism of action may involve release of endorphins and enkephalins (brain mediators involved in perception).

• • •

The Jail Health Care Accreditation program started by the AMA in 1975 recently expanded its program to include prisons and juvenile detention centers. More than 400 jails have participated in the program, which is designed to improve medical services and health care conditions in the nation's jails.

(Continued on page 336)

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Have You Heard? . . .

(Continued from page 335)

In a related action, twenty-one medical, legal, and corrections organizations have established the National Commission on Correctional Health Care, a not-for-profit organization which will work to improve medical and health care in the nation's penal system. Members of the coalition include the AMA, American Bar Association, and American Nurses Association.

• • •

Animal studies at the Research Institute on Alcoholism in Buffalo, New York show evidence that heavy prenatal exposure to alcohol can produce long-term tolerance in the offspring to alcohol and, in some cases, to drugs. Fifteen pregnant rats were given three grams of alcohol per kilogram of body weight twice daily throughout gestation. The amount is equivalent to five or six drinks for human beings. Ten control rats received sucrose solutions throughout their pregnancies.

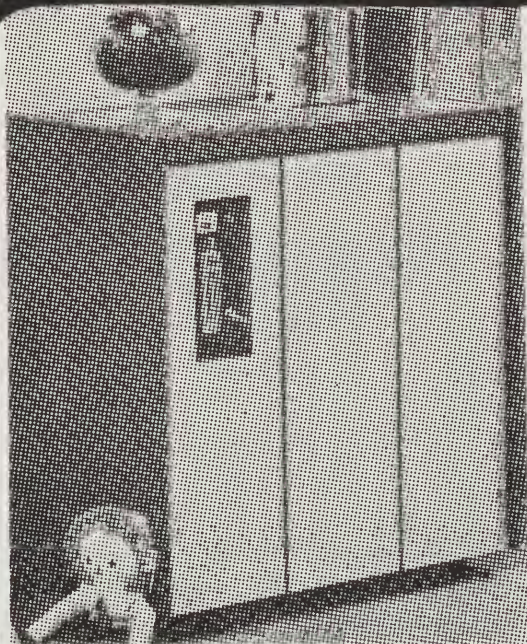
From the age of six to ten months, the pups were given alcohol and a variety of drugs to evaluate their tolerance.

The researchers reported in *Science News* that both the male and female pups exposed to alcohol prenatally showed significantly more tolerance to alcohol. The female pups exposed to alcohol prenatally also displayed more tolerance to pentobarbital and diazepam than did female pups without exposure.

• • •

Cetus Corp recently announced the beginning of human clinical trials on a unique form of human beta interferon. The California-based company applies genetic engineering principles to the development of diagnostic tests, cancer therapy, and human and animal vaccines.

The new beta interferon will be tested as a therapeutic agent in the management of cancer and viral diseases at several medical centers throughout the United States. Initial clinical studies will be conducted at the Wisconsin Clinical Care Center and at the Stanford University School of Medicine. The new beta interferon, the result of more than three years of research, is unique because of a modification in the biochemical structure achieved through genetic engineering.



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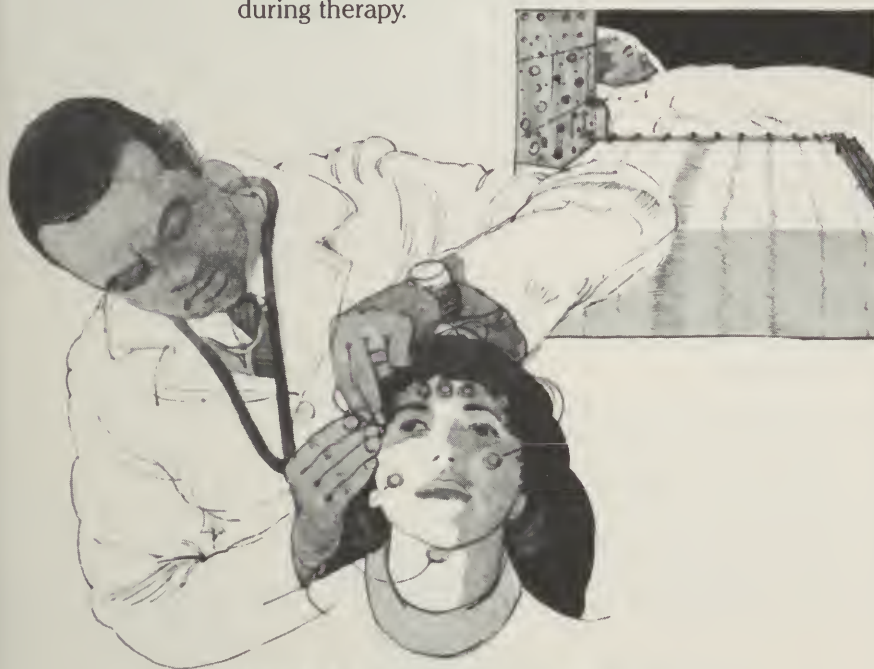
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References: 1. Kales A et al: *J Clin Pharmacol* 17:207-213, Apr 1977 and data on file, Hoffmann-La Roche Inc., Nutley, NJ. 2. Kales A: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. 3. Zimmerman AM: *Curr Ther Res* 13:18-22, Jan 1971. 4. Kales A et al: *JAMA* 241:1692-1695, Apr 20, 1979. 5. Kales A, Scharf MB, Kales JD: *Science* 201:1039-1041, Sep 15, 1978. 6. Kales A et al: *Clin Pharmacol Ther* 19:576-583, May 1976. 7. Kales A, Kales JD: *Pharmacol Physicians* 4:1-6, Sep 1970. 8. Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc* 27:541-546, Dec 1979. 9. Dement WC et al: *Behav Med* 5:25-31, Oct 1978. 10. Vogel GW: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. 11. Karacan I, Williams RL, Smith JR: The

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Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, e.g., excitement, stimulation and hyperactivity.

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Medical Journal



**Elderly woman caning a chair at the Central Falls (Rhode Island) Community Center —
See Page 349**



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NEWSLETTER

EDITORIAL

PRESIDENT'S PAGE

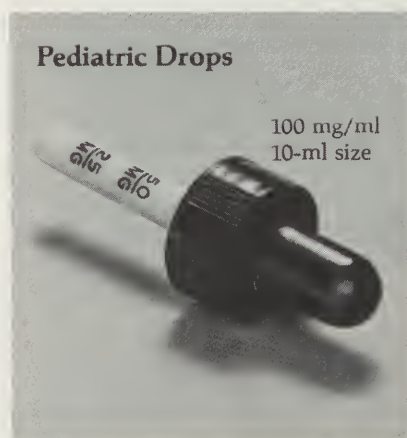
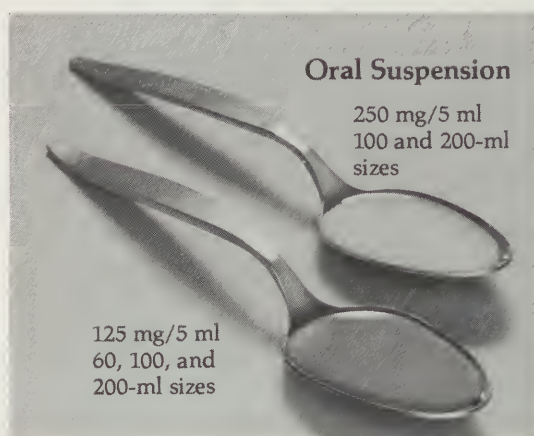
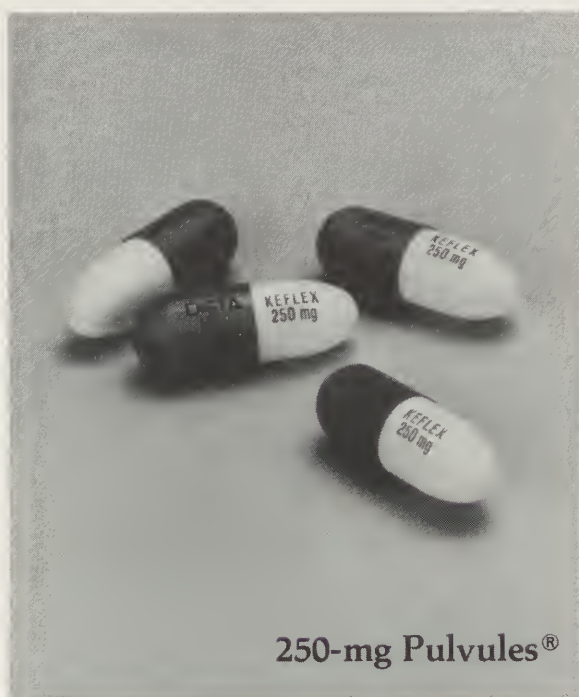
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Newsletter

Charles P. Shoemaker, Jr., MD, President
Norman A. Baxter, PhD, Executive Director
Wendy J. Smith, Editor

SEPTEMBER 1983

COUNCIL ACTS ON MEDIATION COMMITTEE

The Council of the Rhode Island Medical Society recently asked the Mediation Committee to continue dealing with complaints from patients about physicians, except for those related to fee levels. The Council's action was taken after a detailed presentation by Patricia Zesk, an attorney with Edwards & Angell, on the Society's potential liability for prosecution under federal anti-trust regulations. The Mediation Committee had adjudicated complaints about physicians' charges until June, when the Council sought a legal opinion.

Ms Zesk told the Council that the Society had three options:

- It could adopt an extremely conservative stance and refuse to address any complaints about physicians' practices, including their billing policies.
- It could continue the practice of resolving all patient complaints, including those about physician fees, and risk a potential suit from either the Federal Trade Commission (FTC) or the Department of Justice.
- It could adopt a middle course and continue to adjudicate complaints, but refuse to address those aspects of the allegations which deal with fee levels. Dr Melvin D. Hoffman, Chairman of the Mediation Committee, said that many of the letters received by the Committee involve several components. A specific complaint about physician fees, he said, often was only one aspect of a larger problem.

The Council noted that the Committee provides a valuable service and directed it to continue addressing complaints about physicians' professional activities, except for fee levels. The Council also asked the Committee to explain the reasons for its lack of action on fee-related issues in its correspondence with patients. The AMA recently reported that at least 12 other state and county medical societies have abandoned fee review because of potential FTC involvement.

In other actions at its August 3 meeting, the Council:

- approved the 1984 proposed budget for submission to the House of Delegates at its September meeting.
- approved plans for a November 30 program on such social and economic issues as malpractice, diagnosis-related group (DRG)-based reimbursement, and the needs of salaried physicians. The program will be targeted towards younger physicians.
- nominated Dr Daniel Moore, Jr. as a trustee of the Society's Benevolence Fund. Dr Moore will fill a vacancy created by the death of Dr Alfred L. Potter in April 1983. The incumbent trustees are Drs Frank W. Sullivan and Melvyn M. Gelch.

SOCIETY OBJECTS TO FALSE ADVERTISING

The Society recently forwarded a complaint to the Consumer Fraud Division of the Rhode Island Attorney General's Office about an advertisement by a health food store in a Providence weekly newspaper. The ad claims that consumption of macrobiotic foods will prevent and cure cancer. As a result of the Society's action, the Consumer Fraud Division has asked the store's proprietor to provide substantiating documentation for the advertising claims at a meeting in the Attorney General's office.

SEMINAR ON HEALTH LAW SCHEDULED FOR BOSTON

The American Society of Law & Medicine (ASLM) has announced a seminar on "Critical Issues in Health Law" to be held October 13-14 in Boston. The meeting is co-sponsored by the Massachusetts Medical Society. Some of the issues to be examined include an in-depth analysis of the legal, medical, and ethical considerations of health care financing; anti-trust law; new requirements for informed consent; the responsibilities of hospitals and physicians in dealing with impaired health providers; and professional liability issues. For additional information and registration materials, please write ASLM, 765 Commonwealth Avenue, Boston, Massachusetts 02215.

ANNUAL CONFERENCE ON SPORTS MEDICINE HAILED A SUCCESS

Physicians, nurses, coaches, and athletic trainers from nine states attended the 18th Annual Postgraduate Conference on the Medical Aspects of Sports, held July 14-15 at the University of Rhode Island (URI) in Kingston. Sponsored by the Society, URI, and the International College of Surgeons, the meeting was organized by Dr A.A. Savastano, who has been the moving force behind the conference. In addition to Dr Savastano, other featured speakers included Society members Drs Ernest B. Lowe, Jr.; Joseph B. Fitzgerald; Louis A. Fuchs; William L. Bernard, Jr.; A. Louis Mariorenzi; Kenneth G. Knowles; and William F. Garrahan. They covered topics ranging from the prevention and treatment of sports-related injuries to legal questions.

HARI TO OPERATE TUMOR REGISTRY

Starting this fall, the Hospital Association of Rhode Island (HARI) plans to assume operation of a tumor registry to assist the state's physicians in the management of cancer cases. The registry will succeed a current program formerly organized by HARI-member hospitals and administered by SEARCH. It was designed to establish a five-year database.

HARI is planning to manage the new registry at its headquarters with support from participating hospitals as a "community commitment." The seven participating hospitals include Kent County, Pawtucket Memorial, Miriam, Rhode Island, St Joseph, Roger Williams, and Women & Infants. More than 80 per cent of cancer patients in the state are treated at these seven hospitals, which expect to diagnose more than 3,500 cases in the next year alone. HARI officials caution that the new system may be in operation for a year or more before "some useful comparative information is available to physicians on survival rates and treatment methods."

TEFRA PROVISION MAY AFFECT WORK DONE IN PHYSICIANS' OFFICES

The Medical Practice Letter recently reported on a "sleepier provision" of the Tax Equity and Fiscal Responsibility Act (TEFRA) of 1982 which may affect physicians' offices. Payments of \$600 or more to independent contractors for services provided

TEFRA REQUIREMENTS (continued)

during the year must be reported on Internal Revenue Service Form 1099. Independent contractors include all individuals not on the regular office payroll who are paid for a service, such as repairmen and building or other trades persons. The requirement applies to services only and not to parts and equipment furnished. It is not clear at this point whether the IRS will require reports for payments made to individuals, corporations, or both.

PERIPATETICS

Society members in the news include:

- Notre Dame Hospital appointed Robert E. Newhouse, MD, Pawtucket, as chief of surgery, and reappointed Gilbert J. Altongy, MD, Central Falls, as chief of medicine. Both will serve one-year terms.
- The American Society for Clinical Investigation recently elected Stephen H. Zinner, MD, Providence, as a "Young Turk" for his work in the field of infectious diseases. This high professional honor is awarded to clinical investigators under 45 years of age who have demonstrated outstanding expertise in their research fields.
- Fiorindo Simeone, MD, Providence, recently presented the 12th Annual Robert H. Whitmarsh Oration of the Roger Williams General Hospital Department of Surgery. Dr Simeone discussed "The Role of Sympathectomy in Peripheral Vascular Disease."
- Mary D. Lekas, MD, Providence, has been appointed as the new surgeon in chief of the Department of Otolaryngology at Rhode Island Hospital. She has been a member of the Hospital's active medical staff since 1962. Dr Lekas will succeed Francis L. McNelis, MD, Providence, who served as the department's surgeon-in-chief for 15 years. He will remain on the hospital's active medical staff.
- The American Society for Surgery of the Hand elected Leonard F. Hubbard, MD, Providence, to membership at the group's annual meeting.
- Robert S.L. Kinder, MD, a Providence ophthalmologist, recently returned from a four-week trip during which he and a resident from Rhode Island Hospital provided medical care to the residents of St Lucia. The most common ocular problems in the area were cataracts and glaucoma.

PRACTICE MANAGEMENT QUESTION OF THE MONTH:

WILL PREFERRED PROVIDER ORGANIZATIONS AFFECT MY PRACTICE?

Preferred provider organizations (PPOs) have received more and more attention in the medical press during recent months. Effective July 1, new legislation in California allows the state government to contract with hospitals and physicians to provide services for Medi-Cal (Medicaid) patients. Insurance companies and service plans, such as Blue Cross and Blue Shield, may also develop contracts with hospitals and physicians at "alternative rates." Payments generally are lower than the prevailing rates in a community. The law requires peer review by "professionally recognized, unrelated third parties" and prohibits hospitals from requiring their medical staffs to participate in a PPO.

(continued on next page)

PRACTICE MANAGEMENT QUESTION (continued)

While few PPOs have so far been developed outside California, insurance companies, service plans, and government agencies have expressed considerable interest in the approach, primarily as a means of limiting costs. PPOs tend to emerge in areas where doctors face heavy competition and hospitals have excess bed capacity. Physicians in these situations may feel compelled to join PPOs as more and more patients have insurance programs which restrict their benefits to PPO providers.

WHAT IS A PPO?

The California Medical Association (CMA), which operates an information clearinghouse on PPOs, defines the entity as a "group of health care providers (either physicians or hospitals) which contracts on a fee-for-service basis with employers or third party carriers to provide comprehensive medical benefits to program subscribers." Most PPOs share the following characteristics: (1) provider panels of a limited number of hospitals and physicians; (2) negotiated, generally "discounted" fee schedules; (3) a claims review system; (4) sanctions against exceeding the fee limits, such as claims denial; and (5) prompt payment of claims. Physicians generally may participate in more than one PPO and are free to treat non-PPO patients.

WHAT IS THE DIFFERENCE BETWEEN A PPO AND OTHER ORGANIZED SYSTEMS?

CMA uses the following "standard" definitions to distinguish PPOs from other payment mechanisms:

- *Independent Practice Associations (IPAs)*: a legal entity, generally a partnership, association, or corporation, which delivers or arranges for the delivery of medical services. Usually, the plan accepts a capitation rate and a degree of risk.
- *Health Maintenance Organizations (HMOs)*: an organized system which provides a comprehensive range of health services to a voluntarily-enrolled patient population. In return for a prepaid fixed fee, the patient is guaranteed a defined set of benefits without regard to the type or frequency of service.
- *Multiple Employer Trust (MET)*: a group of employers which collectively provide health benefits for their employees as permitted under the 1974 Employee Retirement Income Security Act (ERISA). METs generally are established by entrepreneurs who initially contract with physicians and hospitals and then approach employers.

PPOs were intended to combine the best features of fee-for-service medicine with a comprehensive medical benefits package and the cost containment incentives of IPAs and HMOs.

HOW GREAT ARE THE DANGERS OF PPOs?

Considerable. The California Medical Association has established a negotiations department to help its members decipher contracts from the 50 PPOs which have developed in the state. As with any contract, the primary danger of a PPO agreement is that the contract remains in effect "even if the situation does not turn out the way that the contracting parties thought it would." In addition, to operate effectively, PPOs must have the same administrative support as an HMO or IPA. There are not yet enough qualified personnel to provide adequate support for the existing HMOs and IPAs, let alone the new PPOs.

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The Committee on Impaired Physicians, chaired by Dr. Herbert Rakatansky, meets monthly. It is a standing committee of the Society charged with "helping physicians whose professional judgments and capacities are impaired by their difficulties with chemical dependency or other illnesses."

The Committee handles inquiries in *complete confidence*. If you know of a physician who needs an advocate and support in obtaining necessary treatment, please call or write Dr. Rakatansky c/o The Committee on Impaired Physicians, Rhode Island Medical Society, 106 Francis Street, Providence 02903 (401/331-3207).

The Navy Flight Surgeon...

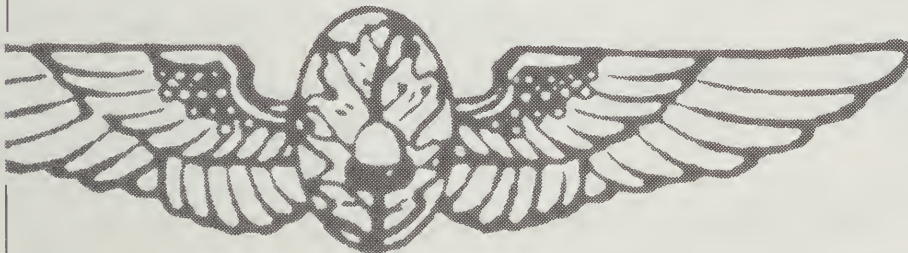
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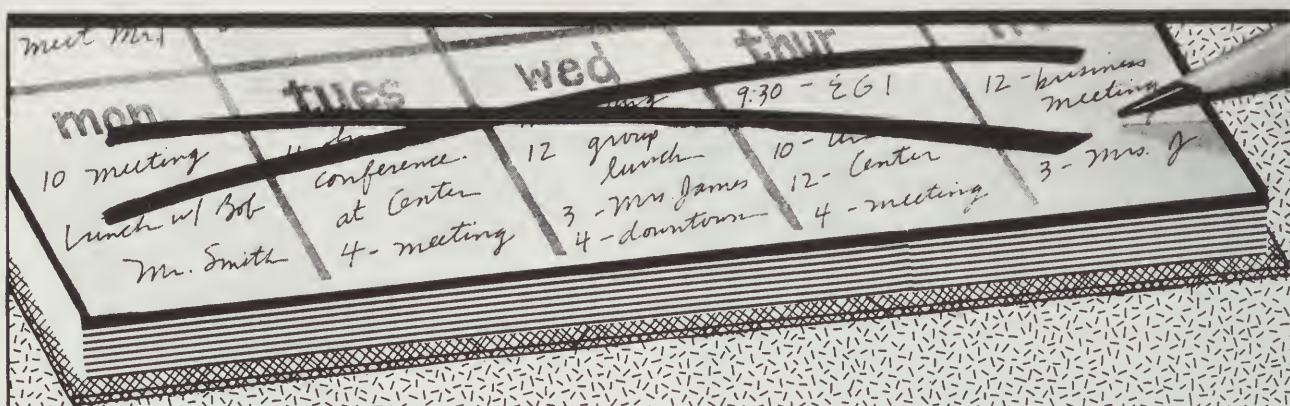
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September 1983
Volume 66, Number 9

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Rhode Island Medical Journal is owned and published by the Rhode Island Medical Society, 106 Francis Street, Providence, Rhode Island 02903, Ph: 401/331-3207. Single copies \$2.00 — Subscriptions \$15.00 per year (members of the Rhode Island Medical Society — \$5.00 annually). Published articles represent opinions of the authors and do not necessarily reflect the official policy of the Rhode Island Medical Society unless clearly specified. Advertisements do not imply sponsorship or endorsement by the Rhode Island Medical Society. Second class postage paid at Providence, Rhode Island and at additional mailing offices. ISSN 0363-7913

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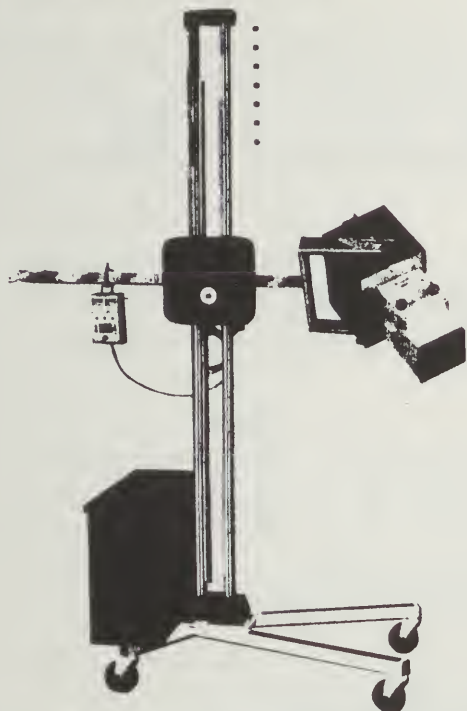
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A. Hunter Dupree, PhD

Cover:

Most elderly persons, such as the woman shown on the cover, are able to lead satisfying and productive lives. An estimated 3,900 Rhode Islanders aged 65 years and older, however, suffer from Alzheimer's disease and are isolated from their families and friends as a result of their illness. For a discussion of Alzheimer's disease, please see page 351.

Photograph courtesy of the Rhode Island Department of Elderly Affairs.

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The Specter of Alzheimer's Disease

Alzheimer's disease, formerly perceived as an uncommon form of organic dementia, has lately emerged as a major source of human disability. While no accurate nationwide epidemiologic surveys are presently available, scattered community samplings provide us nevertheless with some measure of the problem. On the basis of these limited surveys, the following age-stratified prevalences are estimated: about one per cent of individuals between ages 65 and 74 years; about four per cent of individuals between ages 75 and 84 years; and about ten per cent of the living population, 85 years of age or older. In the state of Rhode Island, with 127,000 living residents 65 years of age or older, this translates into an estimated 3,900 patients with Alzheimer's disease.

In an effort to determine whether these estimates are grossly reliable, the recently convened Rhode Island Legislative Commission on Dementias Related to Aging is currently conducting a survey of the private nursing homes of the state. Of the approximately 8,700 nursing home residents in Rhode Island, 5,200 have already been surveyed and of these, 2,450 individuals (47.1 per cent) were identified as fulfilling objective diagnostic criteria for moderately severe to severe dementia. If this prevalence of dementia prevails in the remaining nursing home occupants, then we may anticipate that about 4,100 nursing home residents are presently impaired by incapacitating dementia.

If we further assume that about one in every two patients afflicted with organic dementia will be confined to an institution, this would then signify a total population of about 8,200 men and women, in and out of institutions, with some form of organic dementia. Further, since most studies indicate that Alzheimer's disease constitutes

approximately 50 per cent of all forms of organic dementia in western nations, we may then infer that there are about 4,100 patients with identifiable Alzheimer's disease currently living in Rhode Island. On the basis of this sketchy survey, it appears that the earlier assessment of 3,900 patients is about correct.

As the fraction of our population older than age 65 increases from its present 13.4 per cent to an estimated 20 per cent beyond the turn of this century, the number of patients with this disease will correspondingly rise and Plum's prediction of dementia as "an approaching epidemic" will likely materialize.* Thus, with no increase in the population of the state in the next two decades but rather a shift in average age to the more senior years, the following will result: the number of Rhode Island residents 65 years or older will increase from 127,000 to an estimated 212,000, and the number of patients with Alzheimer's disease will rise correspondingly from about 4,000 in 1983 to slightly more than 6,000 in the year 2000.

A number of assumptions have been made in arriving at the total number of Rhode Islanders presently impaired by Alzheimer's disease. While any one of these assumptions may be wrong, there is little doubt that we are harboring thousands of patients with the disease, whether they are identified in the nursing homes or hidden in private homes in the state. We have before us a major medical and social problem.

This issue of the *Journal* is devoted to the subject of Alzheimer's disease and contains papers which examine the disorder from several perspectives.

Stanley M. Aronson, MD

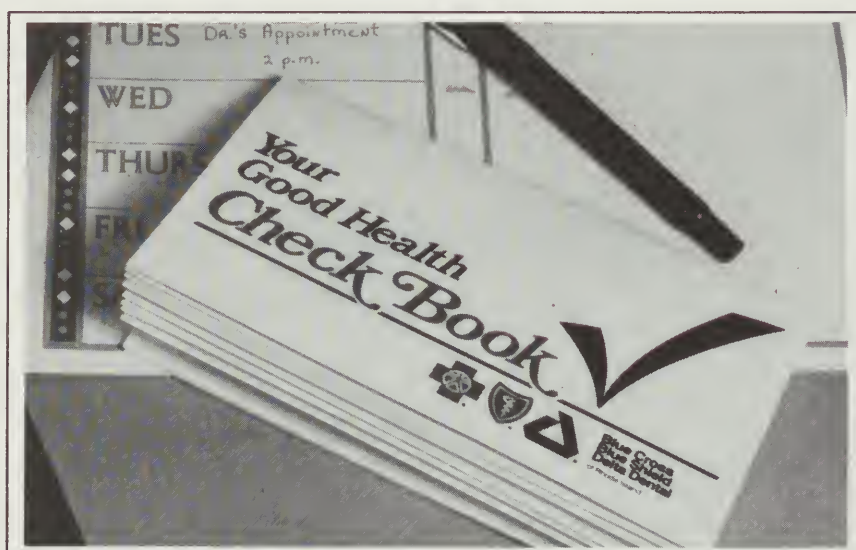
* Plum F: Dementia: an approaching epidemic. *Nature* 275:373-375, 31 May 79.

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the Rhode Island Medical Society, the Rhode Island Pharmaceutical Association, the Rhode Island Department of Elderly Affairs, the Rhode Island Department of Health and the Rhode Island Medicine Education Committee.



PRESIDENT'S PAGE



A Full Agenda for Fall

The summer months passed without any major crises which required the immediate attention of the Rhode Island Medical Society. While the Joint Underwriting Association approved a 24 per cent rate hike in premiums for malpractice insurance, the increase would have been much steeper without the Society's intervention. The Department of Business Regulation approved a three per cent increase in reimbursement rates for physicians by Blue Cross & Blue Shield of Rhode Island. The meager increase from the Blues obviously does not reflect the higher costs of doing business for most doctors, let alone offset the increase for malpractice coverage.

While we plan to focus on the malpractice crisis during the 1984 legislative session, I should like to bring three other issues to your attention.

Third-Party Reimbursement

The AMA House of Delegates will consider a report in December from its Council on Medical Service which recommends that the AMA consider withdrawing its long-standing support of the "usual, customary, or reasonable" (UCR) approach to insurance reimbursement. The AMA Council believes that continued support of the UCR concept will make physicians the "captives of private and public third-party payers." In its place, the AMA Council suggests, the AMA should study the feasibility of an indemnification program. A detailed analysis of the rise and potential fall of UCR appears elsewhere in this issue of the *Journal*.

Closer to home, the Rhode Island Medical Society House of Delegates will debate the issue in September to provide guidance for our delegation to the AMA. If necessary, I plan to convene a special session of the House to address the matter. In view of the dissolution of the interlocking relationship between the Society and Blue Cross & Blue Shield of Rhode Island, it is reasonable to question the effectiveness of any action we might



Charles P. Shoemaker, Jr., MD

take. As a result of protests from the Society, however, Blue Cross & Blue Shield ceased using the objectionable phrase, "usual, customary, or reasonable" in their new contracts. Physicians found this phrase especially galling since patients were led to interpret any charges disallowed by the Blues as "higher than usual, more than customary, and unreasonable" by definition.

More importantly, Rhode Island physicians face the potential danger of being locked into participation agreements as are our counterparts across the border in the Bay State. We still have the option of deciding whether to become "participating physicians." Patients of physicians who do not sign agreements can still receive reimbursement from Blue Cross & Blue Shield of Rhode Island. In neighboring Massachusetts, however, Blue Shield is prohibited from making payments to either patients or physicians for services provided by non-participating physicians.

My plea is that you take the time to study this

issue. If you have problems with the current methods of reimbursement, let me know of your concerns and your alternative proposals.

Physician Directory for Consumers

At its March 1983 meeting, the Society's House of Delegates approved the proposed contents and format of a directory of RIMS members intended for use by consumers. Several bills were introduced during the 1983 session of the General Assembly which would have mandated publication of such a directory. We were able to prevent enactment of these proposals by informing the lawmakers that the Society is addressing the issue on a voluntary basis.

Shortly you will receive a questionnaire which will be used as the basis for this directory. Your participation is voluntary, and you are free to discard the form if you wish. However, I urge your participation for two reasons. First, if the directory is widely accepted and used by the public, each of us may find considerable advantage in letting potential patients know about our training and types of practice. Second, the information from the directory will provide a valuable re-

source for the Society's leadership and staff. Government agencies, such as the Rhode Island Department of Health and the Graduate Medical Education National Advisory Committee, have reached differing conclusions regarding a potential physician surplus or shortage. Much of the data collected is inadequate for planning purposes or cannot be released because of confidentiality restrictions. The questionnaire information will allow us to gather and verify our own information base.

Young Physicians' Meeting

The Society on November 30 will conduct a one-day symposium on such issues as malpractice, the needs of salaried physicians, diagnosis-related group (DRG) based reimbursement, and other current problems. The meeting will be a combination of panel discussions and workshop sessions. Approximately 60 young physicians from throughout the state will be invited to participate. The *Journal* will include an extensive report on the meeting, and participants will be asked to report on the day's events at their hospital staff meetings and to their district societies. ■

SPECIAL REPORT

A Death Knell for UCR?

A report recently adopted by the American Medical Association House of Delegates calls for the AMA to consider recommending fundamental changes in the way third-party payers reimburse physicians for their services.

The AMA Council on Medical Service has proposed that the federation consider withdrawing its current support of the "usual, customary, or reasonable" (UCR) method of insurance reimbursement. The Council recommends that, in its place, the AMA consider an indemnification system for the payment of physicians' services. Physicians would establish their own fees, and patients would be responsible for paying the physician's bill. Insurance companies would set reimbursement schedules for medical services and procedures and reimburse the patient for the pre-determined amounts.

While the AMA has supported the UCR concept since 1965, it has become almost meaningless as the result of wide differences among physicians, patients, and insurance companies as to what constitutes a "usual, customary, or reasonable" payment. The AMA Council now believes that continued support of UCR reimbursement will make medicine "the captive of public and private third-party payers."

The proposal from the AMA Council on Medical Service has been sent to all state medical societies and national specialty associations for their review and comment. It also has received extensive coverage in the medical press and will be the subject of further debate at the December 1983 meeting of the AMA House of Delegates. This analysis is intended to inform members of

This analysis is based on Report D of the Council on Medical Service of the American Medical Association. It was presented to the AMA House of Delegates at its 1983 Annual Meeting, June 19-23, Chicago. Copies of the report are available from the offices of the Rhode Island Medical Society.

the Rhode Island Medical Society of the basic issues involved in these deliberations.

What is UCR?

As there is considerable confusion regarding the meaning of "usual, customary, or reasonable," a definition of terms is in order.

In 1968, the AMA House of Delegates defined *usual* as the fee a physician generally charges for a particular service or procedure. *Customary* was defined as "that range of fees charged by physicians of similar training and experience for the same service within a specific limited geographic area." *Reasonable* was either a fee which meets the criteria for "usual" and "customary" or is justified because of the special circumstances of that particular case. The AMA House emphasized that peer review committees of local medical associations would be the most appropriate bodies to review the "reasonableness" of physician charges. It was included as one of the three criteria to provide some recourse to the patient if a particular fee was judged excessive.

The UCR method of reimbursement was first adopted in 1954 as a local experiment in Madison, Wisconsin by the Wisconsin Physicians' Service (Blue Shield). It became a statewide program in Wisconsin in 1957, and was soon followed by similar programs in Iowa and California. By the mid-1960s, a few Blue Shield plans and commercial companies were using this payment method, although many third-party payers were reluctant to offer UCR-based policies because of a lack of actuarial experience. Starting in 1966, however, a UCR-based mechanism was almost universally adopted because its use was mandated by Medicare law. Carriers were forced to develop a system and the necessary actuarial data to administer the Medicare program.

As originally designed, the linkage between insurance reimbursement and the actual charges of physicians offered several advantages to both patients and physicians. Patients were assured that

they would continue to receive covered services without undue economic hardship. Physicians also benefitted because insurance carriers recognized for the first time the variations among physician charges which resulted from individual differences in training, skill, and experience.

The Erosion of UCR

The AMA Council on Medical Service attributes erosion of the UCR concept to a number of factors. First, the widespread availability of comprehensive insurance coverage has insulated both physicians and patients from the true costs of medical care. As an organized group, physicians have few remedies to the problems of medical care costs because of existing legal sanctions against fee review by professional societies. Under the terms of a May 1982 order by the Federal Trade Commission, the AMA is prohibited from taking any actions which may be construed as the establishment of fees. State and county medical societies throughout the country have stopped dealing with patient complaints about physician charges because of the possibility of an FTC restraining order. The Council of the Rhode Island Medical Society recently directed the Mediation Committee of the Society to cease adjudicating complaints from patients regarding the "reasonableness" of physician charges.

Second, the AMA Council notes the widening gap between the "reasonable" charge allowed by insurance companies and the fees actually charged by physicians. This discrepancy is generally most striking in the Medicare program, although in Rhode Island, Blue Shield is likely to lag behind Medicare because of intervention by the Director of Business Regulation. This results in the ridiculous situation whereby a physician may have two or more "usual, customary, or reasonable" charges. In contrast to the AMA definition of "reasonable," Medicare defines the term as the *lowest* of: (1) the actual charge made by the physician; (2) the physician's "customary" charge; or (3) the "prevailing" charge in the community.

The definitions of "customary" and "prevailing" are even more distorted. Medicare defines the "customary" charge as the individual physician's median charge for the service, an amount which would cover his or her professional services at least half the time the service is performed. The "prevailing" charge is essentially the amount which would cover the "customary" charge in a given area a certain percentage of the times it is performed. From the date of enactment

of Medicare until 1971, Medicare carriers were allowed to establish their own cut-offs for the prevailing charge, and some set it as high as 90 per cent. In 1971, however, a nationally-imposed prevailing charge level was set at the 75th percentile.

Theoretically, physicians are paid 80 per cent of the "reasonable" charge, as defined by Medicare, for covered services to Medicare beneficiaries. In practice, however, the payment often is further reduced, since Medicare computations are based on charge information which may be up to two-and-one-half years old. The payment is reduced by the calculation of an "economic index" which, in effect, imposes a ceiling on any increases in reimbursable physician charges.

Third, the AMA Council expressed concern that physicians will face increasing pressure to become "participating providers." Participating providers must agree to accept the "reasonable charge," as determined by the insurance company, as payment in full and may not bill the patient for any additional amount, except for allowed deductible payments, co-insurance, or both. Approximately 93 per cent of all practicing physicians in Rhode Island in 1982 had signed participation agreements with Blue Shield of Rhode Island. Virtually all of the contracts written by Blue Shield plans offering participation agreements permit assignment of benefits *only* if the physician has signed a participation agreement. The physician may not then bill the patient for any balance.

Blue Shield of Massachusetts and some plans in Washington State have imposed a more extreme form of participation agreement. The Massachusetts situation, which has been the subject of continuing litigation since 1979, is worthy of attention because it illustrates the potential dangers of such agreements. Physicians in Massachusetts are virtually compelled to sign participation agreements with Blue Shield of Massachusetts if they are to survive. First, more than 60 per cent of the state's residents hold Blue Shield coverage. Second, and perhaps most important, Blue Shield will pay *neither physician nor patient* for services performed by a non-participating Massachusetts physician. Except in out-of-state or emergency situations, Blue Shield pays no money for services performed by such resident non-participating physicians. Unlike the Massachusetts plan, most Blue Shield plans, including Blue Cross and Blue Shield of Rhode Island, will reimburse patients if they receive services from non-participating doctors.

The AMA Council also objected to the practices of some insurance companies which use misleading or derogatory language to explain benefits to their subscribers. The problem is particularly acute in letters from private payers with UCR-based payment mechanisms where the wording often conveys the impression that any fee greater than the amount paid by the insurer is "unreasonable" by definition. Until recently, the Health Care Financing Administration permitted use of the objectionable phrase "more than allowable cost" on forms designed to explain benefits to Medicare patients.

As a result of these and other factors, increasing numbers of physicians are refusing to accept Medicare assignment. In 1969, physicians throughout the country accepted Medicare assignment in 61.5 per cent of all claims filed. By 1980, that figure had dropped to 51.5 per cent and in 1982 to 42 per cent. According to statistics provided by Blue Cross and Blue Shield of Rhode Island, some 83 per cent of Medicare claims in 1982 were paid on an assignment basis.

Indemnification: One Solution?

The AMA Council has recommended that the AMA consider supporting an indemnification system of payment for physicians' services, ie, payment of a pre-determined amount for services, rather than some proportion of the "usual, customary, or reasonable" charge. Third-party payers would be responsible for establishing this amount on the basis of claims experience, public demand, competition, and other relevant factors.

This change, the AMA Council claims, would benefit patients by: (1) insuring their continued access to care, not through external regulation of fees, but through market forces; (2) increasing the sensitivity of both patients and physicians to the true costs of medical care; (3) allowing patients continued freedom of choice, rather than forcing them to use "participating providers" as a

condition of coverage; and (4) helping consumers to understand more clearly their insurance policies and encouraging them to "comparison-shop" among different plans.

The establishment of rates under an indemnification process would be easier from the point of view of third-party payers. Insurance companies could establish premiums on the basis of prospective analysis of what the plan pays, rather than on a statistical computation of physician charges. Administrative costs would be significantly less than they are now.

The benefits for physicians are especially enticing, according to the AMA Council. The Council believes that an indemnification program would contribute to improved relations between physicians and their patients. Since neither party would have false expectations as to the amount of reimbursement, legislative and political pressures for mandating physician "participation" as a condition of payment could be lessened. The Council further contends that physicians would be able to charge what they believe is a fair and equitable fee, subject only to normal and effective market constraints.

The AMA Council acknowledges that an indemnification program would not solve all problems between physicians and third-party payers. Among other dangers, such an approach could result in the imposition of a maximum fee schedule, rather than an indemnification program. The AMA Council also recognizes that many third-party payers, especially service plans such as Blue Shield, may be reluctant to alter their method of reimbursement for basic health care coverage. The AMA Council, however, is concerned that because of current trends towards comprehensive universal coverage and the rapidly rising costs of medical care, medicine will become the hostage of public and private third party payers if appropriate actions are not taken. ■

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Senile Dementia: Metaphor for Our Time

The Effect of Senile Dementia on Relationships with Others Echoes the Sense of Discontinuity in American Society

A. Ralph Barlow

During the enormously difficult ten years when my father gradually sank into senile dementia, I began to see a similarity between what his disease did to our relationship and a general malaise in modern American society. For thousands of elderly, severely disoriented parents and their troubled middle-aged offspring, dementia means a loss of the sense of connectedness; similarly a sense of discontinuity is at the root of much of our cultural anxiety.

My father's illness was successively diagnosed as arteriosclerosis, organic brain syndrome, and, finally, Alzheimer's disease. During the six years leading up to his death, particularly the last three when he was confined to nursing homes, our relationship — which had been mutually supportive, close and congenial, though open to disagreements and accepting of differences — became characterized by alienation, remorse, anger, and combativeness. Only in brief, intermittent moments did understanding, reconciliation, humor, and compassion break through. Our pain was not unique. A recent article in a New York newspaper stated: "Alzheimer's disease usually lasts from one to ten years and is responsible for half the severe dementia in the US — about 500,000 cases. At this rate, an estimated 1.5 million people will be afflicted by the year 2050."

My father's symptoms began innocently with the loss of memory and the onset of confusion and disorientation; they advanced to the loss of intelligible speech, to gradual withdrawal, and to unresponsiveness to others' efforts at communication; and they culminated in severe habitual

anger, hostility, and physical combativeness. Near the end of his life, my father's belligerent gestures of striking out with his arms seemed to be his way of driving the world away, of disconnecting himself from it, of punishing anyone who simply wanted to be with him in some semblance of companionship.

There was a grim irony in my father's illness. Like others of his generation, he had always been a staunch defender of the establishment and proud of his ability to contain and hide his feelings. He now seemed to be ending his life by venting his frustrations and striking out at those who reminded him of a way of life seemingly in contradiction to his own.

Like other sufferers of Alzheimer's disease, my father seemed to change completely. The very characteristics that he (like many of his peers) had uneasily suspected of his children 20 years ago — alienation, ambivalent loyalties, lack of commitment, discontent, and despair — were now his own, expressed in grossly exaggerated forms. The attitudes parents accused their children of holding during quiet student disengagements of the 1950s and the rebellions of the 1960s now seemed to take possession of my father as he made his final assessment of human existence.

The result for the children of those suffering from dementia is guilt. We gradually convince ourselves that we are responsible for our parents' agonizing condition. We find it easy to remember their feelings of rejection and displacement in the years immediately preceding their breakdowns, feelings brought on by the dramatic social upheavals they neither understood nor appropriated, the loss of the traditional values they had lived by and the seeming downfall of civilization as they had known it.

The suffering of middle-aged adults locked in tension with their severely demented parents is reminiscent of a disconnected, troubled culture at the root of the symptoms which manifest them-

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selves at the end of life for so many people.

Just as I had become aware of the problem of discontinuity through my anxieties over my father's illness, recognizing the need for a more continuous, more connected, less contentious, less disrupted existence, so too my troubled spirit finally rediscovered a sense of continuity through my effort to understand our relationship. Paradoxically, it was my struggle with the phenomenon of guilt that brought me to a new way of seeing.

Guilt, in an America influenced by a docetic evangelical tradition, has come to be thought of as the object of redemption — a burden from which we are to be released. Consistent with a theology which urges us to sever ourselves from anything that denies an ideal, Platonic form of human existence, this tradition encourages us to treat guilt as our enemy, as a designated target to be attacked victoriously, as that malady which is radically discontinuous with our true nature. We are to conquer our guilt as if it were a disease, in the pursuit of a kind of spiritual superhealth.

In contrast to the docetic view, I came to experience guilt as an instrument of, rather than as the object of, redemption. Finding it more possible to be redeemed through my guilt than from my guilt, I discovered that it prompted me to explore my own inner tensions and allowed me to penetrate through my father's illness to hear the groanings of his deeply troubled spirit.

As I came to accept my father's casting of me into an adversary role, I was thrust into a reevaluation of the enemy-victim polarity which has haunted our culture ever since the long crisis of the American hostages' detention in Iran. Among liberals, this crisis galvanized the fear that indeed America might be the enemy of much of the world. The self-image of liberals became severely damaged; they began to suffer from a kind of paranoia in reverse, seeing themselves as enemies and much of the rest of the world as victims. My own anxieties brought me to a similar crisis. I began to alter one of the basic ways in which I had always understood myself.

It was precisely that kind of enemy, or oppressor, role which I began to accept for myself as

penultimate; that uncomfortable identity became a sign of my own reality. Only then could I begin to understand the deeper currents in my relationship with my father. No longer burdened by the burden of guilt, I knew that as my father's antagonist I had indeed undermined his simplistic confidence in a former-day America rooted in principles and values he thought were immutable: self-sufficiency, a Puritan work ethic, and economic laissez-faire.

Part of my guilt resulted from the reluctant recognition that my father had sensed a long time ago that many of his traditions were coming to an end. But in those days I had not wanted to hear his ambivalence, for without a discontinuity between us, my own contentiousness would not have been necessary.

Rather than sharing our mutual misgivings, I unwittingly nurtured a state of discontinuity in the relationship with my father. Now, years later, I felt guilty that I had not let him be more open about his own serious doubts. What the liberalizing process of accepting my guilt taught me was that there was more continuity between my father's generation and my own than I wanted to admit. It was this realization that made me see the pathos in the relationship of a father and son whose perceptions and fears were similar, but who had acted for so long as if their ideas and lives were radically discontinuous.

King David's ancient, disconsolate plea, "O my son Absalom, my son, my son Absalom! Would I had died instead of you, O Absalom, my son, my son!" voiced something of the same anguished sense of pathos over the cleavages which had crippled their relationship. His distress was the grief of a father who understood, although belatedly, that he had let himself become the enemy of his son. My lament is that my father's disease severely handicapped the possibility of rediscovering our affinity in the mature years of our relationship. But to understand the destructiveness of discontinuity and to accept one's guilt makes possible a restored continuity which individual parents and children, as well as society as a whole, can recover in mourning.

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Dementia and Delirium: Detection in the General Hospital

The Detection and Management of Dementia and Delirium Must Receive a High Priority

James R. McCartney, MD
Linda Palmateer, RN, MS

The number of patients older than 65 years of age admitted to general hospitals in Rhode Island is approximately 50 per cent of all admissions. Recent census figures revealed that the median age of the state's population is the third oldest of the 50 states. Yet, hospitals and physicians alike tend to share preconceived, pessimistic views of these elderly patients. Gerontophobic attitudes frequently affect the thoroughness of workup, the quality of care, and the nature of the outcome. Two brief patient histories serve to illustrate the problem.

Case No 1: A 72-year-old woman was admitted from the community for evaluation of occult blood in her stools. Described as alert and oriented, she entered from her home in Pawtucket where she had lived all her life. She was examined by the intern, junior resident, and her attending physician. Physical examination, except for dehydration and the presence of guaiac-positive material on examining finger, was essentially non-contributory. During the night, she was restless and apparently did not sleep well, requiring assistance to find the bathroom. The next day, while awaiting barium enema examination, she became agitated, shouted out, was clearly confused, and was returned to her room. Psychiatric consultation revealed an elderly woman in restraints. She was disoriented, and

contact for formal psychiatric interview at that time was impossible to maintain.

Case No 2: An 86-year-old woman was admitted to the hospital from her daughter's home in East Providence for regulation of her adult-onset diabetes. She related pleasantly and well to nurses and cooperated with educational efforts at diabetes instruction. She rapidly learned self-administration of insulin, although at first she was alarmed by the needle. Nights were passed without incident, although one night's sleep was disturbed by a confused roommate. Five days after admission, she was discharged to her home on insulin in good control.

What is the difference between these two elderly women? What is the problem?

The Problem

In this century, the average duration of life has risen from 47 to 73 years. It is estimated that by the year 2009, the mean age of death will be 82.4 years.¹ With lengthened life spans, the elderly will suffer increasingly from chronic illness and will use hospital facilities in increasing numbers. One of the chronic illnesses associated with aging is organic brain disease, chiefly Alzheimer's disease and multi-infarct dementia. Indeed, one prevalent misconception held by physicians is that dementia is a natural concomitant of aging. In truth, dementia necessitates an end to independent living and custodial care for only five per cent of the population over the age of 65 years. An additional ten per cent of this elderly population have milder degrees of dementia which interfere with their ability to work or engage in social activities, but are not so severe as to require institutionalization.²

It is a mistake to assume that any elderly patient is senile. It is equally a clinical error not to detect the minimally impaired elderly patient. Approx-

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imately 20 per cent of these demented patients are suffering from conditions which are treatable; they are at risk for further deterioration when under the stress of dislocation and hospitalization. Entering a hospital from the community, the mildly demented patient may experience the transition as a threat to independence. Familiar social supports, which have previously compensated for the patient's physical and cognitive deficits, are now disrupted. The trauma of transfer may even increase mortality.³ The demented patient may be given more potent medications during hospitalization, possibly leading to delirium. The number of medications which can cause delirium in the minimally demented elderly is considerable.⁴ These medications need to be employed with care in the face of a compromised central nervous system. What was said by Engle and Romano in 1959 is still the case today: "The physician who is greatly concerned to protect the functional integrity of the heart, liver, and kidneys of his patient has not yet learned to have similar regard for the functional integrity of the brain."⁵

Lipowski, reporting on daily medical rounds, encountered patients who smiled and exchanged polite phrases with their physicians. The same patients when interviewed later displayed marked disorientation and other cognitive deficits.⁶ In later work this led him to state that function as seen by the clinician is the sum of personality, affective state, and overall adaptive efficacy, and that "the diagnosis of organicity, not functional capacity, depends on evidence of some degree of impairment of cognitive functions." A patient such as the woman in Case No 1, polite, alert, and oriented, is not initially suspected of being impaired, and therefore an assessment of her cognitive capacity is not pursued.

Beyond gerontophobia, there may be a lack of attention to detail in evaluating central nervous system function. Brody documented the apparent inattention of physicians to brain function, not just in the elderly, but in patients of all ages.⁸

Hoffman reported on 215 patients who were referred to a specialized medical psychiatric inpatient unit.⁹ Thorough neuropsychiatric evaluation resulted in a therapeutically important alteration of the referring diagnosis in 40 per cent of these cases. Of 122 admitting diagnoses of functional psychiatric disorders, 60 per cent were unchanged by the time of discharge, 6 per cent were changed within the functional category to an extent that appreciably altered treatment, and

34 per cent were changed to a diagnosis of organic brain disorder. With 93 patients admitted with a diagnosis of organic mental disorder, 57 per cent were unchanged, 31 per cent were changed within the organic category, and 12 per cent were changed to a functional psychiatric diagnosis. More than 50 per cent of these 215 cases suffered from an organic mental disorder. Of these, 63 per cent were found to have reversible dementia, many caused by prescribed medications.⁹

Berkowitz provided a questionnaire to medical and surgical house officers with ten items regarding incidence, recognition, type, and work-up of organic brain disease.¹⁰ The scores in his study were disturbingly low.

These numerous observations prompted a recent study which was funded by the Southeastern New England Long-Term Care Gerontology Center at Brown University.¹¹ Some 412 patients older than 65 years of age admitted during a six-week summer period were approached for psychiatric examination within 24 hours of admission. Some could not be examined because of coma, severity of illness, or having been taken to the operating room. However, 182 patients were examined. These patients were tested by the Cognitive Capacity Screening Examination (CCSE), developed by Jacobs and Strain.¹² A score of 20 or less reliably signifies a lower cognitive capacity, detecting the fewest false positives, or false negatives. The present study showed 65 of the 182 patients (36 per cent) had scores of 20 or less. A subsequent chart review showed that physicians had missed the cognitive deficit in 50 of these 65 patients (77 per cent). The 182 patients were examined by 99 different housestaff and attending physicians for a total of 394 recorded examinations. Only four of these 394 examinations resulted in a recorded mental status. Few were evaluated beyond the standard phrase, "alert and oriented."

Discussion

It is clear that both attitudinal sets and functional ignorance exist. The studies cited above tend to point toward an area of serious failure and neglect in the diagnosis and care of the elderly patient. The arrival of an elderly patient in an emergency room or on the wards is greeted neither by enthusiasm nor curiosity. Hospitals tend to fear such admissions because they are so often prolonged by multiple complications, and utilization review committees look askance at efforts to stabilize such patients. Too often, the fragile social networks disrupted by the hospitalization are

no longer intact to receive the elderly patient upon discharge. The very rush to shorten hospitalization leads to a pace of workup which has an unfortunate impact upon the elderly patient with an organically damaged central nervous system, paradoxically leading to a prolonged hospital stay. Delirium is not just a poor prognostic sign, it is an impediment to investigation and the proper treatment of the underlying disorder.

It is not man's apposable thumb, nor his "heart, liver, and kidneys" that makes him human and gives quality to his life. It is his more or less intact brain. Furthermore, much can be done to stabilize the impaired nervous system and protect it from further insult. To do so, however, one must

first detect the impairment. Recognition of impaired cognitive capacity is not useless labeling. Attention to the integrity of the brain should be a core concern in the management of all patients, most particularly the elderly. While only 36 per cent of the patients examined in this study had a clear-cut deficit in cognitive capacity, this nevertheless represents a significant proportion of the hospitalized population.

As increasing numbers of the elderly population seek medical care in the general hospitals, the detection and management of dementia and delirium must be assigned high priority. Studies of both gerontophobic attitudes and knowledge levels reveal that this is not currently the case.

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Patients hospitalized for treatment of alcoholism are showing higher levels of multiple drug abuse and medical complications, according to a paper recently released by Doctor Joseph Pursch, Medical Director, CareUnit. The CareUnit Hospital network is the country's largest provider of substance abuse treatment services. More than 34 per cent of patients hospitalized for treatment of
(Continued on page 378)



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A Strategy for Those in The Shadow of Alzheimer's Disease

Government and the Health Professions Must Support Efforts to Solve the Biological, Social, and Human Problems

A. Hunter Dupree, PhD

The victims of Alzheimer's disease have been with us for ages. Traditions both within the community at large and within the health care professions have long distinguished from other types of mental illness the deterioration of memory as a serious and incurable disorder. The tremendous economic burden of care imposed first on the families of the victims and ultimately on the community has appeared in thousands of budgets, both public and private. The structure of social services and of institutions, especially of nursing homes, has increasingly felt the impact as the success of medical treatment has allowed an aging of the total population and the survival of many individuals to the age at which, to use the traditional vocabulary, senile dementia is likely to set in.

The New Era Created by the Diagnosis of Alzheimer's Disease

Although the term Alzheimer's disease and the lesions of the brain associated with it have been described in the medical literature since 1907, the restriction of the diagnosis to people under 65 years of age placed Alzheimer's disease in the category of rare diseases and effectively masked its widespread occurrence in those in the population over 65 years of age. The very term *presenile dementia* which was often used, suggested a link between the diagnosed condition among the younger victims and a variety of conditions associated with the loss of memory and personal-

ity change among the elderly. The terms applied by physicians to older patients, *senile dementia*, *arteriosclerosis*, and in the 1970s, *chronic organic brain syndrome*, were not diagnoses based on physical evidence, but rather experienced guesses. The physicians who applied these terms knew that they had no cure and no treatment even while many mental illnesses were yielding to drug therapy. Patients usually were returned to society, either to the families or to public or private institutions for custodial care. The victim became a "patient" and was accorded a "sick role" by health care professionals only if he or she could contract some diagnosable and treatable disease other than the one that was devastating the memory.^{1, 2} Lack of understanding of the mysterious loss of memory, personality change, and inability to function in both private and social situations left the victims in the anomalous position of being neither well nor sick, neither able to carry out all accustomed duties nor able to shed responsibility for actions which became less and less responsive to satisfying their needs. The families and the social agencies left to cope with the consequences of the victim's increasing inability to adopt a coherent role usually felt isolated from understanding and informed help. They tried to deal with the individual situation, often applying inappropriate theories, either seeking dramatic cures or imputing insanity or moral depravity to the victims.

In a surprisingly short time since 1981, the whole scene has begun to be transformed by the giving of the name Alzheimer's disease in cases where the onset occurs in people over 65 years of age.³ The ability to name is a fundamental requisite for modern science, as shown by the accomplishment and enduring influence of Linnaeus. The recognition that loss of memory among the elderly often stemmed from the same

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lesions in the brain as produced Alzheimer's disease among the pre-65 year old age group has led to the applying of the name Alzheimer's disease to people showing the characteristic plaques and neuronal tangles in their brain tissue regardless of age. From a rare condition affecting a small population, Alzheimer's disease now signifies a condition afflicting a significant proportion of the elderly population. Since the elderly population is itself becoming an increasing proportion of the total population, the projection for the future of Alzheimer's disease is not limited to the catching up of the diagnosis to the cases already existing. Once the name is given, the outlines emerge of a huge universe of human suffering with large medical and social costs.

The ability to give the name Alzheimer's disease is only the beginning of the transformation. The precision of the evidence on which the diagnosis is based means that for the first time everyone can think of this condition as a *physical* illness and not as a disembodied mental illness or as an individual mental or moral aberration.

Ever since the time of Pierre Louis in the early nineteenth century, the careful comparison of clinical data with information derived from autopsies, and the analysis of diseased tissues with those taken from controls, has formed the foundation of diagnosis. Modern medicine still rests on that secure foundation. Now unexpectedly the observance of this classic procedure has paid off again with the symptoms of dementia. The very word by implication denies a physical base, but the condition turns out after all to correlate with physical lesions in the brain. One can now speak of a disease of the tissue of the brain. Without knowing the cause of the lesions, we no longer are mystified by the cause of the symptoms of memory loss, personality change, and inability to function normally.

Experimental neurology and biochemistry have played a major role in the ability to expand the capacity to infer a diagnosis.⁴ The basic research done in the last three decades had made possible the tracing out of the neurotransmitters and the associated enzymes which are critical in the functioning of the relatively few neurons whose degeneration likely produces the symptoms of Alzheimer's disease.

The technology of observation and measurement has contributed to the new era of research results in Alzheimer's disease just as it has aided diagnosis since the time of Laënnec's stethoscope. With the coming of computed tomography (CT) scans, it is now possible to offer diagnoses more

readily on living patients, and the prospect of nuclear magnetic resonance (NMR) suggests a future ability to make a definite diagnosis at an early stage.

A problem which confronts the medical profession is to develop a policy on diagnosis. Should the considerable resources which are implied be allotted to making diagnoses on those members of the population, especially the elderly, who are already severely impaired? At what stage in the course of the disease, the onset of which is so gradual and the social penalties so severe that some victims go for years before consulting a physician, should a diagnosis be made? The lack of any effective treatment might argue for using the resources on more likely medical problems. On the other hand the difficult social and economic problems facing the families, and the prospect of losing communication with the victim, may argue for early diagnosis. Surely the government agencies involved will soon develop, if they have not already, a sensitivity to the impact on health care budgets by wholesale diagnoses, especially among the poor. A strong case can be made for greater public participation in bearing the costs of Alzheimer's disease, but the addition to the already rapidly increasing national health care budget will be staggering.

The Social, Political, and Cultural Dimensions

Anyone suffering from a physical disease, for example an infected gall bladder or paralysis from the waist down, is considered a citizen in full possession of his rights, however handicapped. Often a severe crisis marks the onset of illness.

In the case of the Alzheimer's disease victim, the theory in the new era should be the same. The disease attacks certain parts of the body for causes completely beyond the control of the victim or anyone else. The victim is left with a body and even in many respects with a brain that is in perfectly good health if some other factor does not intervene. Even those victims who reach a stage of profound impairment can retain a strong heartbeat, reasonably alert senses, evidence of wide swing of emotional states from rage to joy — in short, all the vital signs which render a person unmistakably alive. The concept of the Alzheimer's disease victim as physically handicapped has only become possible in the new era which is just dawning with the giving of the name.

Stage 1: Victim and Family. Alzheimer's disease creeps in unannounced. Its first signal is the absence of a signal. The victim is probably aware of

it before anyone else and makes dissembling adjustments and circumlocutions to mask the absence of the lost information. The next person to know is an intimate, possibly a spouse, who penetrates the meaning of the victim's detours but in turn begins to design a pattern of covering actions and explanations at his or her own level. Outsiders, even children living at home, will be carefully kept from discovery of the gaps of memory as long as possible. If the victim is the head of the family or a person with large outside responsibilities, the network of adjustment for gaps of information, involving secretaries and assistants, can become quite large and elaborate without any basic disturbance of normal appearances. It is a dangerous paradox that the disease first manifests itself in complicated areas such as the management of personal finances at just the moment that the victim, inwardly in a state of panic and all too aware that something is wrong, angrily rejects any suggestion that his or her autonomy be abridged in any way. The person closest to the victim, a good candidate for the future primary caretaker, almost inevitably becomes the object of suspicion and criticism both for the victim and for family members, friends, and business associates. They cannot believe that a person whom they have long known and relied upon has a lessened ability to respond.

It is a serious question whether, when diagnosis becomes sufficiently reliable, there should be a general screening of the population, as there used to be with chest x-ray studies for tuberculosis. Then the frightening and scarring early-stage tensions could be dealt with openly while two-way communication is still available. Or, is it better to withhold a pronouncement of certain doom from a person who may have several years left in which a normal routine is possible?

Counseling is easy to describe in the abstract but almost impossible to provide for two major reasons. First, each family presents a unique pattern of financial and emotional resources. The degree of acceptance and cooperation among family members varies greatly, as does the willingness of the victim and family to accept counseling. After all, a major invasion of privacy is taking place at just the time when the family wishes to hide its affliction.

Victims without families in all economic groups are worse off than victims with families. Since Alzheimer's disease spares no class or ethnic group, public agencies will often become involved at an earlier stage when the victim is poor, unattached, or both. The counseling agency will

not only have to enter the case earlier, but it will have to enter with financial support for costs that in the past have been left almost wholly to private sources.

Stage 2: Disorganization and Personality Change. At some stage memory loss in the victim begins to disrupt customary behavior. Habits taken for granted such as personal hygiene become problematical. An element of risk of self-harm enters when the victim can no longer cope reliably with appliances such as ovens and stoves. The tendency to wander disoriented beyond the house introduces further elements of risk and often requires strangers or the police to effect a safe return. Ultimately round-the-clock attendance becomes unavoidable.

Contrary to widespread belief, the keeping of a victim in a private home may ultimately become the most expensive option for care. To hire nurses is beyond the reach of all but a wealthy few, and the family which tries to do it alone will likely end up with one or more members in a state of short-term exhaustion and long-term despair. Even if funds were plentiful, one-on-one care, with the victim showing no recovery or response, is debilitating for the caretaker. The commitment of a nurse will inevitably diminish while the untrained person can rarely cope with incontinence and bedsores. Even if the primary caretaker does not stand a watch with the staff, the high turnover and frequent emergencies create a serious drain on a person's energies. Whether adequate funds are available or not, the second stage is usually terminated by the cumulative exhaustion of the family and collapse of the support system rather than by a discrete crisis in the course of the disease.

The strategy might be to telescope this stage as much as possible, saving some of the caretaker's energy and relieving the community at large of the responsibility for the increasing risks to the safety of the victim. Nursing homes have come a long way in the last decade in providing competent care, good nutrition, and decent surroundings. Whether they are good for the elderly in general is a completely different question from whether they are good for Alzheimer's disease victims.

Stage 3: Profound Handicap. Although now physically safer and less threatened by malnutrition and dehydration in the nursing home, the victim continues to lose memory to the point of complete helplessness. The inability to conceive complicated relationships, of which the kinship system of the family is one, may lead family mem-

bers to conclude, oversimply, that "she does not know me anymore." She may point to her own picture and say, "That is my mother." Laymen and physicians alike will use the same sentence, echoing the old term dementia: "Her mind is about gone." Yet the attentive caretaker or the family member who spends much time with her will ultimately be aware of a rich culture still stored in the many circuits of the brain that are yet functioning.* Emotionally, the removal of the inhibitions of convention may turn loose torrents of anger, but it may also release joy, ecstasy, and coquettish playfulness. As memory span becomes so short that the beginning of a sentence is forgotten before the end, language deteriorates and responsiveness declines but does not disappear. When language is gone, dependence on external care becomes near absolute.

It is possible for such a victim to live on in a state of profound memory loss for years. The disease is not itself an efficient killer, for the autonomic nervous system remains substantially intact long after the cerebral cortex is severely impaired.

The Tasks of Public Policy

Information: A prelude to public policymaking for Alzheimer's disease must be the gathering of a great deal of information to establish the magnitude and structure of the problems facing American society at each level — federal, state, local, family, and individual. The recent advent of widespread diagnosis means that the picture of the population involved is still changing rapidly, and demographic analysis cannot be a one-time-only effort, but must adjust continually to the influx of data as awareness of the name spreads and research grows.

In the same way, the costs of the disease and the social budgets to which they are assigned are far from being accurately understood. Every aspect of the health care budget (Medicare, Medicaid, health insurance, and Social Security) should be examined for estimated impact. Social service budgets for counseling, welfare, and unemployment, in short every strand in the safety net for poverty, will feel an impact. Every informal indication at the present time suggests that the numbers involved both in population and in costs will be staggering, a huge and unexpected addition to the national health care cost, which is already approaching crisis dimensions. The sooner the magnitude of the problems associated with Alzheimer's disease can be estimated in their

constituent parts, the better.

A Social Policy for Alzheimer's Disease: The consequences of loss of memory are so threatening to everyone that the very discussion of the subject causes unease. To the extent that a genetic connection may be established, the fear becomes even greater. Alzheimer's disease has a high potential for creating divisions among family members: between those elderly who are not afflicted and those who are; and between the generations of people who have not yet reached the age of frequent occurrence and who as active workers must bear the costs. Those dependent on already inadequate Social Security and other benefits will not welcome the added burdens brought on by the appearance of a victim among themselves. The nature of the disease prevents the victims from organizing any kind of political pressure or making any kind of case for themselves. The families, pulled one way by the victims' interests and another by their own damaged dreams, are in scarcely a better position to make themselves heard.

Under these circumstances the organization of the Alzheimer's Disease and Related Disorders Association (ADRDA), with local chapters and support groups, is a response which provides a network for both the dissemination and collection of information in the community and a resource for support and counseling.

In the end, there is no substitute for the social services of the state and local governments taking a direct responsibility for Alzheimer's disease victims as a part of their overall missions. No one else stands in a position among the various interests to see that the victims receive adequate and humane treatment at the same time that the quality of life for the families and indeed for the whole society is not diminished by the long-term demands made by the disease.

Legal Problems Stemming from Alzheimer's Disease: Slow loss of memory is a handicap which creates many legal perplexities. In the early stages, it would be a completely unwarranted deprivation of rights to remove a victim from the management of his or her own affairs completely. Yet in the profound stage, it is manifestly impossible for the victim to sign a Social Security check or an income tax return, or even to recognize what those documents are. In the wide gray area in between, a lawyer who needs a signature to convey a piece of property may say to the primary caretaker, "Try to catch him (or her) on a good day." The caretaker, whose life may have been set aside completely in prime years, will then be

* The scenario may, of course, apply to a male subject as well.

caught in a compromised position. Whose interest is served in using rapport with the victim to get the signature? Of such gray areas are cases such as the Groucho Marx case made.

Legislatures and the governors should carefully review all legislation concerning guardianships and conservatorships with the special problems of the Alzheimer's disease victim in mind. The humiliation and cost of court action and supervision should be minimized or when possible avoided completely. The model of a trust with a trustee granted carefully defined flexibility may provide a good method to balance the use of assets for the benefit of the whole family.

Public Policy in the New Era

Governments at all levels should recognize that we have entered a new era with the realization that the demented elderly may be victims of Alzheimer's disease. Policy for the new era should be based on short-term concern and long-term hope. The amount of human suffering and its costs are already sufficiently apparent to cause great concerns, especially in the absence of either cure or treatment. Yet awareness of the dimensions of the problem is a sign that the end of an old era of hidden suffering which has been with

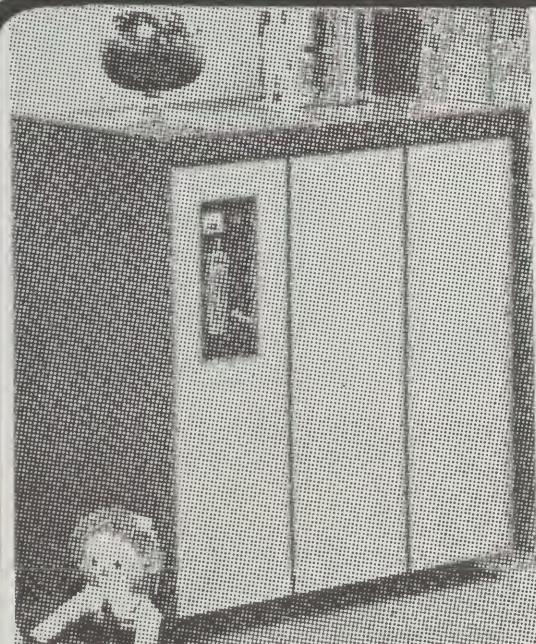
humanity for millennia may be in sight. While hope must still be deferred, the probability that the wait for its fulfillment can be measured in years is now greater than even a decade ago.

Governments at all levels and the health care professions must support concerted efforts in the social as well as the biological sciences. In addition, they must attack the human problem which will not wait even a single day. Hope kindled by the slight knowledge we have already gained should lead to faith that even more knowledge will bring relief to this most intimate and yet public form of suffering. Without memory neither the individual nor society can fully function.

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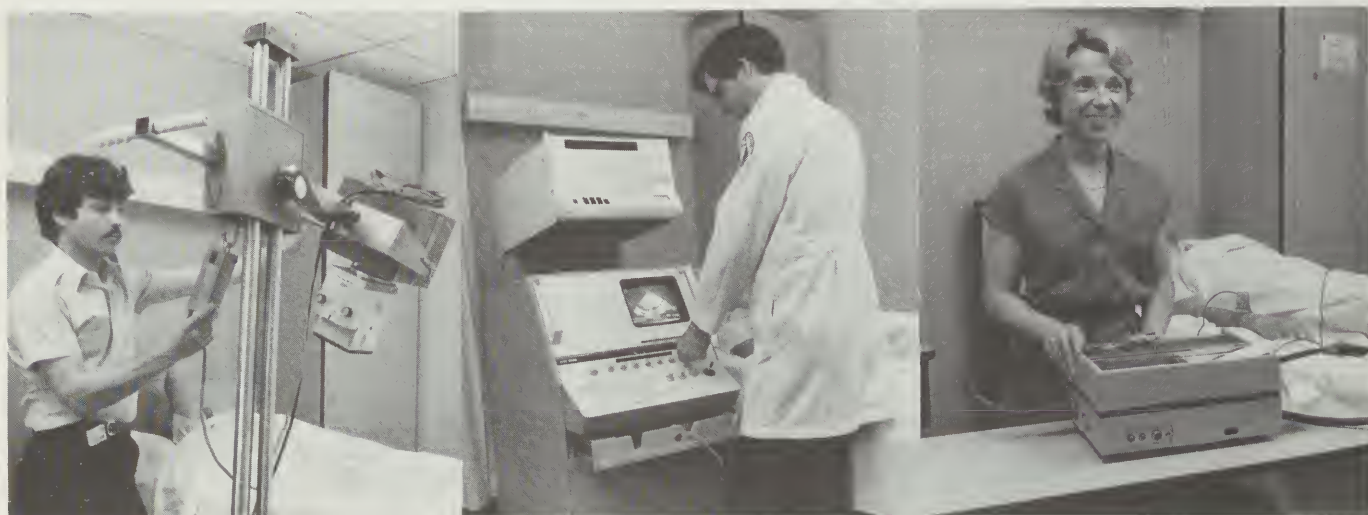
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




Available in 2-mg, 5-mg and 10-mg scored tablets, Valium enables you to titrate dosage to individual patient needs. For the geriatric patient, a starting dosage of 2 to 2½ mg once or twice a day is recommended. And, for patients who forget or skip medication, you can prescribe Valrelease™ (diazepam/Roche) 15-mg slow-release capsules,

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Indications: Management of anxiety disorders, or short-term relief of symptoms of anxiety. Anxiety or tension associated with the stress of everyday life usually does not require treatment with an anxiolytic. Symptomatic relief of acute agitation, tremor, impending or acute delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in: relief of skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders; athetosis; stiff-man syndrome. *Oral forms* may be used adjunctively in convulsive disorders, but not as sole therapy. *Injectable form* may also be used adjunctively in: status epilepticus; severe recurrent seizures; tetanus; anxiety, tension or acute stress reactions prior to endoscopic/surgical procedures; cardioversion.

The effectiveness of diazepam in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

Contraindications: Tablets or capsules in children under 6 months of age; known hypersensitivity; acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: As with most CNS-acting drugs, caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals (drug addicts or alcoholics) under careful surveillance because of predisposition to habituation/dependence.

Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because their use is rarely a matter of urgency and because of increased risk of congenital malformations, as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

ORAL: Advise patients against simultaneous ingestion of alcohol and other CNS depressants.

Not of value in treatment of psychotic patients; should not be employed in lieu of appropriate treatment. When using oral forms adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increase in dosage of standard anticonvulsant medication; abrupt withdrawal in such cases may be associated with temporary increase in frequency and/or severity of seizures.

INJECTABLE: *To reduce the possibility of venous thrombosis, phlebitis, local irritation, swelling and, rarely, vascular impairment when used IV: inject slowly, taking at least one minute for each 5 mg (1 ml) given; do not use small veins, i.e., dorsum of hand or wrist, use extreme care to avoid intra-arterial administration or extravasation. Do not mix or dilute with other solutions or drugs in syringe or infusion flask. If it is not feasible to administer Injectable Valium directly IV, it may be injected slowly through the infusion tubing as close as possible to the vein insertion.*

Administer with extreme care to elderly, very ill, those with limited pulmonary reserve because of possibility of apnea and/or cardiac arrest; concomitant use of barbiturates, alcohol or other CNS depressants increases depression with increased risk of apnea; have resuscitative facilities available. When used with narcotic analgesic eliminate or reduce narcotic dosage at least 1/3, administer in small increments. Should not be administered to patients in shock, coma, acute alcoholic intoxication with depression of vital signs.

Has precipitated tonic status epilepticus in patients treated for petit mal status or petit mal variant status. Not recommended for OB use.

Efficacy/safety not established in neonates (age 30 days or less); prolonged CNS depression observed. In children, give slowly (up to 0.25 mg/kg over 3 minutes) to avoid apnea or prolonged somnolence; can be repeated after 15 to 30 minutes. If no relief after third administration, appropriate adjunctive therapy is recommended.

Precautions: If combined with other psychotropics or anticonvulsants, carefully consider individual pharmacologic effects—particularly with known compounds which may potentiate action of diazepam, i.e., phenothiazines, narcotics, barbiturates, MAO inhibitors and antidepressants. Protective measures indicated in highly anxious patients with accompanying depression who may have suicidal tendencies. Observe usual precautions in impaired hepatic function; avoid accumulation in patients with compromised kidney function. Limit oral dosage to smallest effective amount in elderly and debilitated to preclude ataxia or over-sedation (initially 2 to 2½ mg once or twice daily, increasing gradually as needed and tolerated).

The clearance of diazepam and certain other benzodiazepines can be delayed in association with Tagamet (cimetidine) administration. The clinical significance of this is unclear.

INJECTABLE: Although promptly controlled, seizures may return; readminister if necessary; not recommended for long-term maintenance therapy. Laryngospasm/increased cough reflex are possible during peroral endoscopic procedures; use topical anesthetic, have necessary countermeasures available. Hypotension or muscular weakness possible, particularly when used with narcotics, barbiturates or alcohol. Use lower doses (2 to 5 mg) for elderly/debilitated.





Adverse Reactions: Side effects most commonly reported were drowsiness, fatigue, ataxia. Infrequently encountered were confusion, constipation, depression, diplopia, dysarthria, headache, hypotension, incontinence, jaundice, changes in libido, nausea, changes in salivation, skin rash, slurred speech, tremor, urinary retention, vertigo, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity,



insomnia, rage, sleep disturbances and stimulation have been reported; should these occur, discontinue drug.



Because of isolated reports of neutropenia and jaundice, periodic blood counts, liver function tests advisable during long-term therapy. Minor changes in EEG patterns, usually low-voltage fast activity, observed in patients during and after diazepam therapy are of no known significance.

INJECTABLE: Venous thrombosis/phlebitis at injection site, hypoactivity, syncope, bradycardia, cardiovascular collapse, nystagmus, urticaria, hiccups, neutropenia. In peroral endoscopic procedures, coughing, depressed respiration, dyspnea, hyperventilation, laryngospasm/pain in throat or chest have been reported.

Dosage: Individualize for maximum beneficial effect.

ORAL: **Adults:** Anxiety disorders, relief of symptoms of anxiety—Valium (diazepam/Roche)  tablets, 2 to 10 mg b.i.d. to q.i.d.; or 1 or 2 Valrelease capsules (15 to 30 mg) daily. Acute alcohol withdrawal— tablets, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; or 2 capsules (30 mg) the first 24 hours, then 1 capsule (15 mg) daily as needed. Adjunctively in skeletal muscle spasm— tablets, 2 to 10 mg t.i.d. or q.i.d.; or 1 or 2 capsules (15 to 30 mg) once daily. Adjunctively in convulsive disorders— tablets, 2 to 10 mg b.i.d. to q.i.d.; or 1 or 2 capsules (15 to 30 mg) once daily.

Geriatric or debilitated patients:  tablets—2 to 2½ mg 1 or 2 times daily initially, increasing as needed and tolerated (see Precautions).  capsules—1 capsule (15 mg) daily when 5 mg oral Valium has been determined as the optimal daily dose.

Children:  tablets—1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use in children under 6 months).  capsules—1 capsule (15 mg) daily when 5 mg oral Valium has been determined as the optimal daily dose (not for use in children under 6 months).

INJECTABLE: Usual initial dose in older children and adults is 2 to 20 mg I.M. or I.V., depending on indication and severity. Larger doses may be required in some conditions (tetanus). In acute conditions injection may be repeated within 1 hour, although interval of 3 to 4 hours is usually satisfactory. Lower doses (usually 2 to 5 mg) with slow dosage increase for elderly or debilitated patients and when sedative drugs are added. (See Warnings and Adverse Reactions.) For dosages in infants and children see below; have resuscitative facilities available.

I.M. use: by deep injection into the muscle.

I.V. use: inject slowly, take at least one minute for each 5 mg (1 ml) given. Do not use small veins, i.e., dorsum of hand or wrist. Use extreme care to avoid intra-arterial administration or extravasation. Do not mix or dilute Valium with other solutions or drugs in syringe or infusion flask. If it is not feasible to administer Valium directly IV, it may be injected slowly through the infusion tubing as close as possible to the vein insertion.

Moderate anxiety disorders and symptoms of anxiety, 2 to 5 mg I.M. or I.V., and severe anxiety disorders and symptoms of anxiety, 5 to 10 mg I.M. or I.V., repeat in 3 to 4 hours if necessary; acute alcohol withdrawal, 10 mg I.M. or I.V. initially, then 5 to 10 mg in 3 to 4 hours if necessary. Muscle spasm, in adults, 5 to 10 mg I.M. or I.V. initially, then 5 to 10 mg in 3 to 4 hours if necessary (tetanus may require larger doses); in children administer I.V. slowly; for tetanus in infants over 30 days of age, 1 to 2 mg I.M. or I.V., repeat every 3 to 4 hours if necessary; in children 5 years or older, 5 to 10 mg repeated every 3 to 4 hours as needed. Respiratory assistance should be available.

Status epilepticus, severe recurrent convulsive seizures (I.V. route preferred), 5 to 10 mg adult dose administered slowly, repeat at 10- to 15-minute intervals up to 30 mg maximum. Repeat in 2 to 4 hours if necessary, keeping in mind possibility of residual active metabolites. Use caution in presence of chronic lung disease or unstable cardiovascular status. Infants (over 30 days) and children (under 5 years), 0.2 to 0.5 mg slowly every 2 to 5 min., up to 5 mg (I.V. preferred). Children 5 years plus, 1 mg every 2 to 5 min., up to 10 mg (slow I.V. preferred); repeat in 2 to 4 hours if needed. EEG monitoring may be helpful.

In endoscopic procedures, titrate I.V. dosage to desired sedative response, generally 5 to 10 mg or less but up to 20 mg (if narcotics are omitted) immediately prior to procedure; if I.V. cannot be used, 5 to 10 mg I.M. approximately 30 minutes prior to procedure. As preoperative medication, 10 mg I.M.; in cardioversion, 5 to 15 mg I.V. within 5 to 10 minutes prior to procedure. Once acute symptomatology has been properly controlled with injectable form, patient may be placed on oral form if further treatment is required.

Management of Overdosage: Manifestations include somnolence, confusion, coma, diminished reflexes. Monitor respiration, pulse, blood pressure; employ general supportive measures, I.V. fluids, adequate airway. Use levarterenol or metaraminol for hypotension. Dialysis is of limited value.

How Supplied:

ORAL: Valium scored tablets—2 mg, white; 5 mg, yellow; 10 mg, blue—bottles of 100 and 500; Prescription Paks of 50, available in trays of 10; Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25 and in boxes containing 10 strips of 10.

Valrelease (diazepam/Roche) slow-release capsules—15 mg (yellow and blue), bottles of 100; Prescription Paks of 30.

INJECTABLE: Ampuls, 2 ml, boxes of 10; Vials, 10 ml, boxes of 1; Tel-E-Ject® (disposable syringes), 2 ml, boxes of 10. Each ml contains 5 mg diazepam, compounded with 40% propylene glycol, 10% ethyl alcohol, 5% sodium benzoate and benzoic acid as buffers, and 1.5% benzyl alcohol as preservative.



Brown University and the Practice of Surgery

David S. Greer, MD

We are entering a period of rapid change in medical practice both nationally and regionally. Discomfort among health-care providers is inevitable and scapegoats will be sought. As frustration grows, those with a propensity to demonology will look to exorcism for relief. Highly visible institutions like the Brown University Program in Medicine will be vulnerable and suspect. But the medical school is not the problem; larger forces are at play both locally and nationally. Indeed, intramural squabbling and intra-professional conflict can only weaken our ability to withstand the forces now gathering around our profession.

Let us look at the relevant data. In a little more than a decade, we have doubled the output of physicians in the United States. Rhode Island is an attractive state situated in the northeast corridor of the nation, which has always had a relatively high physician-to-population ratio. We have just begun to feel the tensions created by the accelerated inflow of physicians to our state, and this will get worse within the next few years as the full impact of larger medical school enrollments is translated into physicians emerging from post-graduate education. It is unlikely that we shall witness a significant decline in medical school admission in the near future since we have no central control mechanism and local forces militate against contraction all over the nation.

The cost of medical care in the United States has risen dramatically in the last fifteen years and, despite sharply reduced inflation in other sectors, has continued to rise unabated this past year.

Adapted from an address to the Providence Surgical Society, April 26, 1983.

David S. Greer, MD, is Dean of Medicine, Brown University Division of Biology and Medicine, Providence, Rhode Island.

When final figures are available, it seems probable that in the presence of an overall inflation rate of about four per cent, the cost of medical services continued to rise last year at a rate of approximately 12 per cent. Although I do not agree with many commentators who feel that increased expenditures on medical care are deleterious and constitute a threat to our socio-economic system, I do agree that projection of current fiscal trends will produce an impossible situation in the next decade. Furthermore, in recessionary times, it has become more difficult for payers to pass costs on to consumers. Price increases in goods and services cannot make up the difference in current inflation rates. Thus, as physicians enter practice at an accelerated rate, financial resources will be constrained and the tension of competition will become increasingly apparent.

Finally, new forces are loose in the land. Consumerism has entered our lives and is challenging our professional values. The autonomous (some would say autocratic) physician is a thing of the past. We hear about "patient's rights"; we are criticized for "excessive" use of technology; we are told we are too specialized, too scientific and not sufficiently humanistic, and that we have been corrupted by large incomes. Regulation, litigation, and protest are now part of the professional burden we bear; not only the patients but also the doctors have reason to yearn for "the good old days."

The response to these social, economic, and political forces has been movement toward control, arising from various sources. We are all aware of government regulation, which we continually decry, but government may be the least of our problems in the coming decades. We have also taken note of various alternative professional practice organizations; sometimes with little enthusiasm as in the case of health maintenance

organizations and sometimes in support, albeit frequently reluctant, of developments like independent practice associations. Many of us have also recently noted the increasingly aggressive stance of hospitals, and it seems likely that in the future they will represent a growing organizational and administrative force in medical practice. Finally, although not very apparent in the Northeast, profit-making corporations are moving rapidly into the health service field and seem likely to have increasing influence on the profession in the future. They seem to have little difficulty employing salaried physicians, for example, and they will be sharp competitors in the coming era of "prudent buying."

As a result of all this turmoil and change, insecurity and anxiety among traditional fee-for-service practitioners is to be expected. They may indeed shortly become an extinct species, but the message I bring to you from Brown University is: don't blame it on us. In my opinion, we have built a spectacularly successful medical education program and expanded the medical capability of the Rhode Island community with amazingly little disruption of the professional environment or the medical service ecology. Furthermore, the individual and institutional costs of this medical education enterprise have been so small as to be imperceptible. It is literally almost impossible to demonstrate any increase in health care costs in the state of Rhode Island in the last decade which are directly attributable to the Brown University Program in Medicine. Of course, I must also remind you of the positive aspects of the Program in Medicine such as the new specialty services which have been brought into the community, the well-educated house staff which now populates our hospitals and contributes greatly to patient care while relieving the practicing physician of many service burdens, the research funds and other sources of economic stimulation which the Program has brought to the state, the faculty and students who spend their money and pay their taxes in the state, and the educational milieu which so enhances the continuing education capability of the profession in the state.

My message to you tonight, therefore, is that Brown is not your problem. The Brown University Program in Medicine has been and will continue to be a positive influence in your lives. The vulnerability you feel is realistic and valid, but it stems from sources less visible and more difficult to attack than the Program in Medicine. The practice of surgery will change and indeed is changing. Maybe it should change. Competition

will be keener. Organizing forces will encumber you. Corporate entities may indeed compete with you, and that competition may seem unfair, but remember, you have been the great exponents of *laissez-faire* in the practice of medicine.

At Brown, our plans for the future are modest. Except for a few specialties where development has been retarded (eg, diagnostic radiology, neurology), we have enough faculty for our small student body. Forces for further faculty expansion arise from other sources, such as hospitals which desire faculty-level professionals to provide various specialized services and physicians who enjoy the assistance and support of house staff and therefore need faculty to meet accreditation requirements. We are searching for surgeons-in-chief at the Roger Williams and Miriam Hospitals to assist those hospitals in administering their surgical programs and to expand our educational capability at the postgraduate level. There has been interest among various practitioners and hospitals in the development of full-time faculty in a few of the surgical subspecialties to maintain or establish residency programs in those disciplines. The medical school administration is attempting to react prudently and in the community interest to these expansionary pressures. Of course, we would like to have outstanding academic programs in such specialties as urology, neurosurgery, and cardiothoracic surgery, but these are not core disciplines in undergraduate medical education. Our excellent surgical clerkship, which is at the core, is a superb example of what can be done with the combined talents of a small, full-time faculty and a dedicated voluntary core of surgeons.

The bottom line is that these are indeed unsettled times, but that you must look beyond the Brown University Program in Medicine for the origins. The medical school may be the channel through which some changes are effected, but it could be the most congenial channel if you consider the alternatives. Change is inevitable, but the future will be brighter if the profession remains united and positive in its outlook. No individual or group is perfect, and it therefore will always be easy to find fault. The fabrication of demons may provide a focus for the ventilation of hostility, but an attack on demonic straw men is not likely to improve the situation.

At Brown University, we are proud of the academic enterprise we have created in collaboration with the practicing community and a variety of health-care providers. We shall continue to

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BOOK REVIEW

Medicine and Society

The Social Transformation of American Medicine

By Paul Starr. 514 pp. New York, Basic Books, 1982, \$24.95.

Despite its length and cost, this book may well become a best seller. It is a fascinating account of American medicine from the colonial period to the late 1970s and the historical, economic, and social factors which shaped its development. The author, a Harvard sociologist, postulates that physicians, many of whom, he feels, lacked professional, economic, and social status during most of America's early days, were able to achieve an unprecedented degree of cultural authority because of the convergence of scientific and economic circumstances during the late 1800s. During much of the 20th century, he contends, physicians have attempted to consolidate and maintain that authority in the face of new forms of medical practice and the development of health insurance.

The volume actually contains two separate books which are unified by the interwoven theme of "cultural authority." Starr defines this phenomenon as "the possession of some status, quality, or claim that compels trust and obedience" and emphasizes its importance to the therapeutic relationship between physicians and their patients. During the early 1800s, however, doctors were weak, insecure in status and income, impotent in the face of fraudulent quacks and tonic salesmen, and unable to raise standards of medical education. The first book traces the growth of their professional autonomy, the corresponding expansion of such institutions as hospitals and health departments, and how physicians were able to co-opt these potential threats to their shaky authority and strengthen their position. The second book deals with the current defense of professional authority and the struggles over the business and politics of health care.

Starr believes that physicians were able to expand their cultural authority by transforming such potential threats as hospitals and health departments into assets. A brief discussion of the

conflict between public health advocates and private practicing physicians around the turn of the century will illustrate this point.

The rapid growth of public health measures, particularly after 1870, threatened the private practice of medicine because of its focus on personal hygiene, rather than on environmental and sanitary concerns. During the 1850s and 1860s, public health advocates were more closely affiliated with engineering than with medicine. The focus of attention shifted, however, from public to personal cleanliness as a result of the development of bacteriology and the discovery that human beings could transmit communicable diseases. The stage for conflict was set. By the early 1900s, doctors were worried about competition from the fledgling health departments: "... with school inspections, the police surgeon, sputum and Widal examinations, and free consultations on doubtful contagious cases, are we coming to free medical attendance as we are provided with free public schools?" By 1920, C. E. A. Winslow, professor of public health at Yale University Medical School, had defined public health as "the science and art of preventing disease, prolonging life, and promoting physical health and efficiency. . . ." Few public health authorities were as expansionist as Winslow and the social climate of the times militated against public competition with the private sector. As a result, physicians were able to secure arrangements with their local health departments to refer suspected carriers of communicable diseases to the private sector for treatment.

In his analysis of the current struggles over the business and politics of medicine, Starr emphasizes that a dramatic shift in the social climate has eroded a considerable amount of professional autonomy. Many will find his predictions for the next two decades to be rather dismal. It is likely that the next 20 years will be marked by dimin-

ishing resources for many physicians, the takeover of voluntary hospitals by large corporations, and the contraction of the size, number, and resources of medical schools. Starr bases his gloomy prognosis on two immediate circumstances: the rapidly expanding supply of physicians and continued efforts by government and employers to control the costs of medical care. But the real threat to the "cultural authority" of physicians is the changing social fabric of the 1980s and beyond. The manifestations of this change already are familiar to most doctors on a daily basis and include such factors as the public conception of medical care as an inalienable right, a growing distrust of technology, and the increasing militancy of patients. Starr's analysis is particularly valuable because he places these trends within their historical and social context and briefly touches on their impact on other sectors of society.

As a sociologist, Starr emphasizes the impact of the social and economic trends which influenced American medicine — perhaps to the detriment of such other significant factors as ethical considerations and scientific advances. Some readers may also be offended by his analyses of the American Medical Association. He regards the AMA as a monolith established primarily to protect the economic self-interests of its members. As an example, Starr notes that the AMA strongly objected to health maintenance organizations (HMOs) in the early 1970s and implies that the HMO movement has floundered as a result: "The doctors felt directly threatened, and the AMA mounted an aggressive campaign against the program, stalling passage of legislation in Congress. . . ." He neglects to point out, however, that the AMA did not object to HMOs as one potentially viable way of providing medical care. The organization's protests stemmed from its concerns that massive federal subsidies would favor HMOs as the preferred delivery mechanism at the expense of other sectors of the economy, notably office-based physicians. In addition, some HMOs went bankrupt in the early days because of untrained administrative support and inadequate capitalization.

Starr also has been criticized because of his attempt to trace 250 years of medical and social history in slightly more than 500 pages.¹ One of the many strengths of this book, however, is the author's successful effort to anchor medical developments and the reactions of physicians within

the historical context of the times. It is difficult to discuss the momentum toward physician licensure during the period 1870 to 1900 without noting that other occupational groups, such as barbers and embalmers, also clamored for the protection of licensure. The activities of Sinclair Lewis and his fellow muckrakers formed a necessary backdrop to the restriction of prescription privileges to physicians and the establishment in 1906 of the Food and Drug Administration. Currently, many allied health technicians similarly are attempting to enhance their status by seeking licensure, rather than certification. Other accounts of medical history seem pallid in comparison to Starr's vivid depictions, primarily because they tend to treat such events as though they had taken place in a vacuum, rather than in the context of contemporary events.

As an added bonus, Rhode Island readers will enjoy the references to the state's illustrious medical history. In a discussion of the "modernization of dirt," Starr analyzes the impact of Charles V. Chapin, the Providence superintendent of health from 1888 to 1932. Chapin was one of the first public health authorities to protest against the "filth theory of disease" by noting that it makes "no distinction between dangerous dirt and dirt not dangerous and warfare is waged against everything decaying and everything which smells bad." The book quotes extensively from a 1909 paper on contract medicine by Providence internist George S. Mathews (1862-1950), which has been reprinted in this *Journal*.² References also are included to lesser known figures in the state's history, including the Sweet family, famous as bonesetters from the 17th to early 20th centuries, and former Rhode Island Congressman Aime Forand, who introduced legislation intended to cover hospital costs only under the Social Security program. Through political pressures, Forand's "modest proposal" became the forerunner of Medicare.

While some readers may object to Starr's underlying assumptions, it presents a balanced and engrossing account of a complex subject. No serious student of the medical scene in the 1980s can afford to miss it.

Wendy J. Smith

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- ¹ King LS (reviewer), Starr P: *The Social Transformation of American Medicine*, book review. JAMA, 249:2237, 1983.
- ² Mathews GS: Contract Medicine in Rhode Island. RI Med J 66:323-326, 1983.



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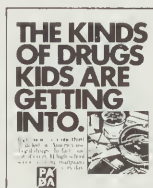
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Commentary

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integrate our efforts with those of community representatives, to remain sensitive to the needs of various individuals and constituencies, and to work toward further improvement in medical education and service in Rhode Island.

Brown University
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Have You Heard? . . .

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alcoholism had abused other drugs. Eighty-four per cent of these patients had at least one accompanying medical disorder in addition to their primary diagnosis of substance abuse, and patients had an average of 2.2 serious medical complications. Abuse of multiple drugs among the young has increased rapidly, with more than two-thirds of all patients between the ages of 20 and 30 years and 81 per cent of those under the age of 20 years being diagnosed as multiple abusers.

• • •

The National Fund for Medical Education (NFME) recently awarded a fellowship grant to a medical student from the Brown University Program in Medicine to "study the interaction in native villages between the hill tribes of Thailand and Western medicine." The \$4,500 grant was awarded to Donna Ann Dyer. She will implement one of 31 projects to be undertaken by medical students as part of a program administered by NFME and supported by a grant from Smith-Kline Beckman Corporation. The National Fund received a Congressional charter in 1954 to "mobilize voluntary support for medical education." It has awarded more than \$56 million to institutions and individual scholars.

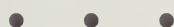
• • •

Advanced Technology Laboratories, Inc., a member of Squibb Medical Systems, recently introduced a low-cost, portable ultrasound system with abdominal, cardiac, neonatal, gynecological, and obstetric applications. The ADR 4000 S/L® includes such display features as metric scale calipers; a microprocessor-calculated gestational age; the femur length and crown rump length;

identification of the patient, date, and image annotation; freeze-time images; and two-dimensional images, linear images, or both.



Gayman Industries, Inc. recently offered a new tool for determining patients at risk for developing bed sores. A calculator similar to a slide rule allows for the analysis of such factors as the patient's physical condition, mental status, mobility, presence of incontinence, and nutritional status. The Pressure Sore Risk Analyzer® is available free of charge by calling 1-800/828-7341.



The Pennwalt Corporation, a Philadelphia-based manufacturer of chemicals and health products, recently filed an investigational new drug (IND) application with the Food and Drug Administration seeking approval for clinical testing of a compound synthesized in its laboratories for the treatment of herpes II virus. In laboratory tests on animals, the patented compound, somantadine hydrochloride, has been effective in the treatment of lesions and blisters associated with the virus. Company officials noted that the experimental results were most impressive when the compound was administered both internally and topically. While the proposed human tests initially will be limited to topical application, the company plans to request permission to permit clinical tests of an internally-administered version of the compound if topical application is successful.



Park Surgical Co., Inc. recently introduced a new speech aid, the Park MK II Artificial Larynx®, which permits laryngectomy patients to be heard or to use the telephone. The device is extremely light, is designed to fit in pockets or purses, and is powered by a standard 1.5 volt battery.



The C. B. Fleet Company, Inc. recently introduced a new test, available on an over-the-counter basis, to detect early warning signs of colitis, diverticulitis, hemorrhoids, and colorectal cancer. While many people have been given tests to detect early signs of occult blood in the stool as part of a regular physical examination, the Fleet Detecatest® is the only test available without medical supervision. Company officials emphasized that the test is not intended as a substitute

(Continued on page 380)



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Have You Heard? . . .

(Continued from page 379)

for regular medical check-ups. They noted, however, that the home health care market has doubled in the past two years and is expected to expand at a rate of 30 per cent annually.

• • •

According to a paper in the July 1983 *Archives of Ophthalmology*, a study of mortality among elderly patients undergoing cataract extraction shows that they had twice the mortality of other surgical patients at the same hospital. The researchers at the Tufts University School of Medicine said that these data support the concept that cataracts in elderly patients reflect systemic problems rather than local ocular disease alone.

• • •

Systems Plus, Inc., a California-based developer of computer software, recently expanded its Medical Manager® software package to include a general ledger system for group practices. The software system also includes a billing and insurance component and linkage with word processing units. Company officials claim that it is the "most comprehensive practice management package available for microcomputers."

• • •

Fluoridation of drinking water once again has proved to be an effective weapon against tooth decay, according to a new report from the American Council on Science and Health. If children are exposed from birth to optimally fluoridated water, they will experience 50 to 70 per cent fewer cavities than otherwise expected. There also is increasing evidence that fluoridation also benefits adults as well, because fluoride may help prevent osteoporosis. The report was issued in response to recent decisions by several communities throughout the country to discontinue their fluoridation practices.

• • •

Surgical removal of tissue from the back of the mouth has brought dramatic relief to some snorers, according to the August 1983 issue of *Archives of Otolaryngology*. F. Blair Simmons, MD, and his colleagues at the Stanford University School of Medicine describe a procedure called palatopharyngoplasty which stopped or reduced snoring to acceptable levels in eight patients for whom snoring was the only problem. The tech-

nique also brought relief to nine of 20 patients who also suffered from obstructive sleep apnea.

• • •

Use of prophylactic antibiotics to prevent infections resulting from surgery is widespread and "often inappropriate," report researchers from the University of California at San Francisco in the August 1983 *Archives of Surgery*. As the result of a literature review, B. Joseph Guglielmo, PharmD, and his colleagues noted that prophylactic antibiotics are indicated for a number of surgical procedures. There are conflicting data, they note, on the usefulness of prophylaxis in abdominal hysterectomy, cesarean section, non-cardiac thoracic procedures, and urologic surgery.

• • •

A lack of dietary fiber may be an important factor in the pathogenesis of acute appendicitis, according to Einar Arnbjornsson, MD, University of Lund, Sweden. In a paper published in the July 1983 *Archives of Surgery*, Doctor Arnbjornsson reports on a study of 61 patients which showed that the daily fiber intake was significantly lower among appendicitis patients than in a control group. The fiber intake averaged 17.4 grams in the patients with appendicitis and 21 grams in the control group.

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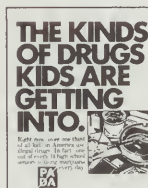
According to a recent report from the Vitamin Nutrition Information Service, vitamin supplement usage is greater among women than men (particularly women who work full-time); among college graduates than high school graduates; and among professional, clerical, and sales people than manual laborers. There is higher usage among those people in households with more than \$10,000 annual income and without children living at home. People in the West tend to take more vitamins than those in other areas of the country, and the average adult spends \$28 a year on vitamin pills.

• • •

Two studies of motor activity in hyperactive boys indicate that their activity is consistent and continuous, even during sleep, and that some degree of control over hyperactivity can be gained through administration of dextroamphetamine. A report in the June 1983 *Archives of General Psychiatry* uncovers little evidence to support the

(Continued on page 382)

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Have You Heard? . . .

(Continued from page 381)

hypothesis that hyperactivity is simply an artifact of attentional demands.

• • •

According to a paper in the July 1983 *Archives of Surgery*, toxic shock syndrome (TSS) can affect men as well as women, causing life-threatening infections after surgery. While TSS previously has been associated primarily with the use of tampons during menstruation, the syndrome's current incidence in cases unrelated to menstruation now accounts for 13 per cent of all incidents reported.

The paper identifies the first reported death from TSS in a case not related to menstruation. The patient was a 45-year-old man who died six days after elective hernia surgery. It also presents the first reported incidents of recurrent TSS that were not associated with menstruation, both in women who recently had undergone surgery.

Researchers postulate that toxic shock occurs when staphylococcal bacteria enter the body through traumatized tissue sites. Infected patients develop fever, muscle soreness, vomiting, severe watery diarrhea, abdominal pain, sore throat, and skin blanching. If the infection is allowed to progress over two to four days, organ dysfunction may occur, resulting in mental confusion, respiratory distress, and congestive heart failure.

• • •

The scientific evidence does not support the popular conception that the United States is suffering from an "epidemic" of cancer, according to a report recently published by the American Council on Science and Health, an independent research organization. The statistics indicate that the rates of the common forms of cancer, except for lung cancer, have decreased or leveled for the past 50 years. Carcinoma of the lung has shown a "drastic and unprecedented rise." Numerous clinical, epidemiological, and laboratory studies have confirmed that the increase in lung cancer is directly attributable to cigarette smoking, which is responsible for at least 80 per cent of all deaths from this disease.

• • •

Several investigations are now underway to determine if the human T-Cell leukemia virus (HTLV) or a related virus plays a causal role in

the acquired immune deficiency syndrome (AIDS), according to Thomas J. Spira, MD, of the AIDS Task Force, Centers for Disease Control (CDC), Atlanta.

Studies suggest that 25 per cent or more of AIDS patients have an antibody to this agent compared to approximately one per cent of a homosexual control group and slightly less than one per cent of a group of blood donors who were also studied. Almost 26 per cent of patients with lymphadenopathy also have the HTLV antibody. The lymphocyte ratio of helper cells to suppressor cells has been identified as part of the AIDS syndrome. According to investigators from the CDC and elsewhere, current research, based on tracing the contacts of AIDS victims, strongly suggests an infectious etiology for the syndrome. The CDC also is conducting screening tests on high risk populations to determine if a test to identify AIDS exists.

• • •

CHILDHHELP, USA, formerly the Children's Village, USA, and the C. Henry Kempe National Center of Denver have established a National Child Abuse Advisory Service for physicians and other professionals who deal with the victims of child abuse. Physicians seeking a consultation may call a 24-hour hotline number (1-800-4-A-CHILD).

• • •

Saul Krugman, MD, Professor of Pediatrics, New York University Medical Center, recently reported that a combination of hepatitis B vaccine and hepatitis B immune globulin (HBIG) over a six-month period will provide immediate and long-term protection for children born to mothers with active Type B hepatitis or those born to carrier mothers. Approximately 75 per cent of the chronic hepatitis B infections in neonates can be prevented with HBIG therapy. Current studies suggest that combining HBIG and hepatitis B vaccine in a treatment regimen may prevent about 85 per cent of the infections in newborn infants.

Newborns should receive HBIG intramuscularly within hours of birth. Hepatitis B vaccine may be given at birth or a week later with a second dose of vaccine given a month after the first dose. At six months of age, the infant's serum should be tested for hepatitis B surface antigen to determine the presence of infection. ■

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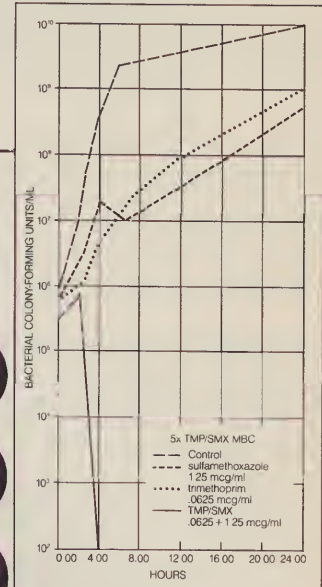
Percent of isolates of common uropathogens sensitive to BACTRIM and to other antimicrobials



†Analogous to cephalothin, the primary antibiotic disc used in testing.

Source: The Bacteriologic Report, BAC-DATA Medical Information Systems, Inc., Winter Series, 1981-82. Numbers under percentages refer to the projected number of isolates tested.

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Resistance to Bactrim develops more slowly than to either of its components alone *in vitro*.^{*} Among urinary tract isolates, resistance has rarely emerged in susceptible strains.^{5,12} Bactrim is contraindicated in pregnancy at term, during lactation, in infants less than two months old and in documented megaloblastic anemia due to folate deficiency. Initial episodes of uncomplicated urinary infections should be treated with a single-agent antimicrobial.

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^{*}*In vitro* data do not necessarily predict clinical results.

References: 1. Data on file, Hoffmann-La Roche Inc., Nutley, NJ. 2. Kramer MJ, Mauriz YR, Robertson TL, Timmes MD: Morphological studies on the effect of subinhibitory and inhibitory doses of sulfamethoxazole-trimethoprim combination on *Escherichia coli*. Presented at the 12th International Congress of Chemotherapy, Florence, Italy, Jul 19-24, 1981. 3. Spiechandler J et al: *Rev Infect Dis* 4:562-565, Mar-Apr 1982. 4. Stamey TA: *Pathogenesis and Treatment of Urinary Tract Infections*. Baltimore, Williams & Wilkins, 1980, p. 13. 5. Ronald AR: *Clin Ther* 3:176-189, Mar 1980. 6. Cooper J, Brumitt W, Hamilton-Miller JMT: *J Antimicrob Chemother* 6:231-239, 1980. 7. Gower PE, Tasker PRW: *Br Med J* 1:684-686, Mar 20, 1976. 8. Cosgrove MD, Morrow JW: *J Urol* 111:670-672, May 1974. 9. Irvani A et al: *Antimicrob Agents Chemother* 19:598-604, Apr 1981. 10. Schaeffer AJ, Flynn S, Jones J: *J Urol* 125:825-827, Jun 1981. 11. Rous SN: *J Urol* 125:228-229, Feb 1981. 12. BAC-DATA Medical Information Systems, Inc., Bacteriologic Reports, Winter Series, 1976-82.

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Before prescribing, please consult complete product information, a summary of which follows:

Indications and Usage: For the treatment of urinary tract infections due to susceptible strains of the following organisms: *Escherichia coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis*, *Proteus vulgaris*, *Proteus morganii*. It is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single effective antibacterial agent rather than the combination. Note: The increasing frequency of resistant organisms limits the usefulness of all antibacterials, especially in these urinary tract infections.

For acute otitis media in children due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over other antimicrobials. To date, there are limited data on the safety of repeated use of Bactrim in children under two years of age. Bactrim is not indicated for prophylactic or prolonged administration in otitis media at any age.

For acute exacerbations of chronic bronchitis in adults due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over a single antimicrobial agent.

For enteritis due to susceptible strains of *Shigella flexneri* and *Shigella sonnei* when antibacterial therapy is indicated.

Also for the treatment of documented *Pneumocystis carinii* pneumonitis.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; patients with documented megaloblastic anemia due to folate deficiency; pregnancy at term; nursing mothers because sulfonamides are excreted in human milk and may cause kernicterus; infants less than 2 months of age.

Warnings: BACTRIM SHOULD NOT BE USED TO TREAT STREPTOCOCCAL PHARYNGITIS. Clinical studies show that patients with group A β -hemolytic streptococcal tonsillopharyngitis have higher incidence of bacteriologic failure when treated with Bactrim than do those treated with penicillin. Deaths from hypersensitivity reactions, hepatocellular necrosis, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

Precautions: General: Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function. Bactrim may prolong prothrombin time in those receiving warfarin; reassess coagulation time when administering Bactrim to these patients. **Pregnancy:** Teratogenic Effects: Pregnancy Category C. Because trimethoprim and sulfamethoxazole may interfere with folic acid metabolism, use during pregnancy only if potential benefits justify the potential risk to the fetus.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. **Blood dyscrasias:** Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. **Allergic reactions:** Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. **Gastrointestinal reactions:** Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, hepatocellular necrosis, diarrhea, pseudomembranous colitis and pancreatitis. **CNS reactions:** Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. **Miscellaneous reactions:** Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities to some gonitogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: Not recommended for infants less than two months of age.

URINARY TRACT INFECTIONS AND SHIGELLOSIS IN ADULTS AND CHILDREN, AND ACUTE OTITIS MEDIA IN CHILDREN:

Adults: Usual adult dosage for urinary tract infections—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days. Use identical daily dosage for 5 days for shigellosis.

Children: Recommended dosage for children with urinary tract infections or acute otitis media—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. Use identical daily dosage for 5 days for shigellosis.

For patients with renal impairment: Use recommended dosage regimen when creatinine clearance is above 30 ml/min. If creatinine clearance is between 15 and 30 ml/min, use one-half the usual regimen. Bactrim is not recommended if creatinine clearance is below 15 ml/min.

ACUTE EXACERBATIONS OF CHRONIC BRONCHITIS IN ADULTS:

Usual adult dosage: 1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 14 days.

PNEUMOCYSTIS CARINII PNEUMONITIS:

Recommended dosage: 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.

Supplied: Double Strength (DS) tablets, each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100 and 500; **Tel-E-Dose® packages** of 100; **Prescription Paks** of 20. **Tablets**, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; **Tel-E-Dose® packages** of 100; **Prescription Paks** of 40. **Pediatric Suspension**, containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); **cherry flavored**—bottles of 100 ml and 16 oz (1 pint). **Suspension**, containing 40 mg trimethoprim and 200 mg sulfamethoxazole per tea spoonful (5 ml); **fruit-licorice flavored**—bottles of 16 oz (1 pint).

References:

- Stone PH, Turri ZG, Muller JE: Efficacy of nifedipine therapy for refractory angina pectoris. *Am Heart J* 104:672-681, September 1982.
- Antman E, Muller J, Goldberg S, et al: Nifedipine therapy for coronary artery spasm: Experience in 127 patients. *N Engl J Med* 302:1269-1273, June 5, 1980.

BRIEF SUMMARY

PROCARDIA® (nifedipine) CAPSULES

For Oral Use

INDICATIONS AND USAGE: I. Vasospastic Angina: PROCARDIA (nifedipine) is indicated for the management of vasospastic angina confirmed by any of the following criteria: 1) classical pattern of angina at rest accompanied by ST segment elevation, 2) angina or coronary artery spasm provoked by ergonovine, or 3) angiographically demonstrated coronary artery spasm. In those patients who have had angiography, the presence of significant fixed obstructive disease is not incompatible with the diagnosis of vasospastic angina, provided that the above criteria are satisfied. PROCARDIA may also be used where the clinical presentation suggests a possible vasospastic component but where vasospasm has not been confirmed, e.g., where pain has a variable threshold on exertion or in unstable angina where electrocardiographic findings are compatible with intermittent vasospasm, or when angina is refractory to nitrates and/or adequate doses of beta blockers.

II. Chronic Stable Angina (Classical Effort-Associated Angina): PROCARDIA is indicated for the management of chronic stable angina (effort-associated angina) without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or organic nitrates or who cannot tolerate those agents.

In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in those patients are incomplete.

Controlled studies in small numbers of patients suggest concomitant use of PROCARDIA and beta blocking agents may be beneficial in patients with chronic stable angina, but available information is not sufficient to predict with confidence the effects of concurrent treatment, especially in patients with compromised left ventricular function or cardiac conduction abnormalities. When introducing such concomitant therapy, care must be taken to monitor blood pressure closely since severe hypotension can occur from the combined effects of the drugs. (See Warnings.)

CONTRAINDICATIONS: Known hypersensitivity reaction to PROCARDIA.

WARNINGS: Excessive Hypotension: Although in most patients, the hypotensive effect of PROCARDIA is modest and well tolerated, occasional patients have had excessive and poorly tolerated hypotension. These responses have usually occurred during initial titration or at the time of subsequent upward dosage adjustment, and may be more likely in patients on concomitant beta blockers.

Severe hypotension and/or increased fluid volume requirements have been reported in patients receiving PROCARDIA together with a beta blocking agent who underwent coronary artery bypass surgery using high dose fentanyl anesthesia. The interaction with high dose fentanyl appears to be due to the combination of PROCARDIA and a beta blocker, but the possibility that it may occur with PROCARDIA alone, with low doses of fentanyl, in other surgical procedures, or with other narcotic analgesics cannot be ruled out. In PROCARDIA treated patients where surgery using high dose fentanyl anesthesia is contemplated, the physician should be aware of these potential problems and, if the patient's condition permits, sufficient time (at least 36 hours) should be allowed for PROCARDIA to be washed out of the body prior to surgery.

Increased Angina: Occasional patients have developed well documented increased frequency, duration or severity of angina on starting PROCARDIA or at the time of dosage increases. The mechanism of this response is not established but could result from decreased coronary perfusion associated with decreased diastolic pressure with increased heart rate, or from increased demand resulting from increased heart rate alone.

Beta Blocker Withdrawal: Patients recently withdrawn from beta blockers may develop a withdrawal syndrome with increased angina, probably related to increased sensitivity to catecholamines. Initiation of PROCARDIA treatment will not prevent this occurrence and might be expected to exacerbate it by provoking reflex catecholamine release. There have been occasional reports of increased angina in a setting of beta blocker withdrawal and PROCARDIA initiation. It is important to taper beta blockers if possible, rather than stopping them abruptly before beginning PROCARDIA.

Congestive Heart Failure: Rarely, patients, usually receiving a beta blocker, have developed heart failure after beginning PROCARDIA. Patients with tight aortic stenosis may be at greater risk for such an event.

PRECAUTIONS: General: Hypotension: Because PROCARDIA decreases peripheral vascular resistance, careful monitoring of blood pressure during the initial administration and titration of PROCARDIA is suggested. Close observation is especially recommended for patients already taking medications that are known to lower blood pressure. (See Warnings.)

Peripheral edema: Mild to moderate peripheral edema, typically associated with arterial vasodilation and not due to left ventricular dysfunction, occurs in about one in ten patients treated with PROCARDIA. This edema occurs primarily in the lower extremities and usually responds to diuretic therapy. With patients whose angina is complicated by congestive heart failure, care should be taken to differentiate this peripheral edema from the effects of increasing left ventricular dysfunction.

Drug interactions: Beta-adrenergic blocking agents: (See Indications and Warnings.) Experience in over 1400 patients in a non-comparative clinical trial has shown that concomitant administration of PROCARDIA and beta-blocking agents is usually well tolerated, but there have been occasional literature reports suggesting that the combination may increase the likelihood of congestive heart failure, severe hypotension or exacerbation of angina.

Long-acting nitrates: PROCARDIA may be safely co-administered with nitrates, but there have been no controlled studies to evaluate the antianalgesic effectiveness of this combination.

Digitalis: Administration of PROCARDIA with digoxin increased digoxin levels in nine of twelve normal volunteers. The average increase was 45%. Another investigator found no increase in digoxin levels in thirteen patients with coronary artery disease. In an uncontrolled study of over two hundred patients with congestive heart failure during which digoxin blood levels were not measured, digitalis toxicity was not observed. Since there have been isolated reports of patients with elevated digoxin levels, it is recommended that digoxin levels be monitored when initiating, adjusting, and discontinuing PROCARDIA to avoid possible over- or under-digitalization.

Carcinogenesis, mutagenesis, impairment of fertility: When given to rats prior to mating, nifedipine caused reduced fertility at a dose approximately 30 times the maximum recommended human dose.

Pregnancy: Category C. Please see full prescribing information with reference to teratogenicity in rats, embryotoxicity in rats, mice and rabbits, and abnormalities in monkeys.

ADVERSE REACTIONS: The most common adverse events include dizziness or light-headedness, peripheral edema, nausea, weakness, headache and flushing each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0.5%. Syncopal episodes did not recur with reduction in the dose of PROCARDIA or concomitant antianalgesic medication. Additionally, the following have been reported: muscle cramps, nervousness, dyspnea, nasal and chest congestion, diarrhea, constipation, inflammation, joint stiffness, shakiness, sleep disturbances, blurred vision, difficulties in balance, dermatitis, pruritus, urticaria, fever, sweating, chills, and sexual difficulties. Very rarely, introduction of PROCARDIA therapy was associated with an increase in anginal pain, possibly due to associated hypotension.

In addition, more serious adverse events were observed, not readily distinguishable from the natural history of the disease in these patients. It remains possible, however, that some or many of these events were drug related. Myocardial infarction occurred in about 4% of patients and congestive heart failure or pulmonary edema in about 2%. Ventricular arrhythmias or conduction disturbances each occurred in fewer than 0.5% of patients.

Laboratory Tests: Rare, mild to moderate, transient elevations of enzymes such as alkaline phosphatase, CPK, LOH, SGOT, and SGPT have been noted, and a single incident of significantly elevated transaminases and alkaline phosphatase was seen in a patient with a history of gall bladder disease after about eleven months of nifedipine therapy. The relationship to PROCARDIA therapy is uncertain. These laboratory abnormalities have rarely been associated with clinical symptoms. Cholestasis, possibly due to PROCARDIA therapy, has been reported twice in the extensive world literature.

HOW SUPPLIED: Each orange, soft gelatin PROCARDIA CAPSULE contains 10 mg of nifedipine. PROCARDIA CAPSULES are supplied in bottles of 100 (NOC 0069-2600-66), 300 (NOC 0069-2600-72), and unit dose (10x10) (NOC 0069-2600-41). The capsules should be protected from light and moisture and stored at controlled room temperature 59° to 77°F (15° to 25°C) in the manufacturer's original container.

More detailed professional information available on request

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ROCHE LABORATORIES
Division of Hoffmann-La Roche Inc.
Nutley, New Jersey 07110



LABORATORIES DIVISION
PFIZER INC

*"I can do things that I
couldn't do for 3 yrs. including
joining the human race again."*



*"My daily routine consisted of
sitting in my chair trying to stay alive."*

*"My doctor switched me to
PROCARDIA[*] as soon as it became
available. The change in my condition
is remarkable."*

*"I shop, cook and can plant
flowers again."*

*"I have been able to do volunteer
work...and feel needed and useful
once again."*

PROCARDIA can mean the return to a more normal life for your patients—having fewer anginal attacks,¹ taking fewer nitroglycerin tablets,² doing more, and being more productive once again.

Side effects are usually mild (most frequently reported are dizziness or lightheadedness, peripheral edema, nausea, weakness, headache and flushing, each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0.5%).



for the varied faces of angina

PROCARDIA[®]
(NIFEDIPINE) Capsules 10 mg

* Procordia is indicated for the management of:

- 1) Confirmed vasospastic angina.
- 2) Angina where the clinical presentation suggests a possible vasospastic component.
- 3) Chronic stable angina without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or nitrates or who cannot tolerate these agents. In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks' duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in these patients are incomplete.

Please see PROCARDIA brief summary on adjoining page.

Quotes from an unsolicited letter received by Pfizer from an angina patient. While this patient's experience is representative of many unsolicited comments received, not all patients will respond to Procordia nor will they all respond to the same degree.

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Motrin[®]

ibuprofen, Upjohn

600 mg Tablets



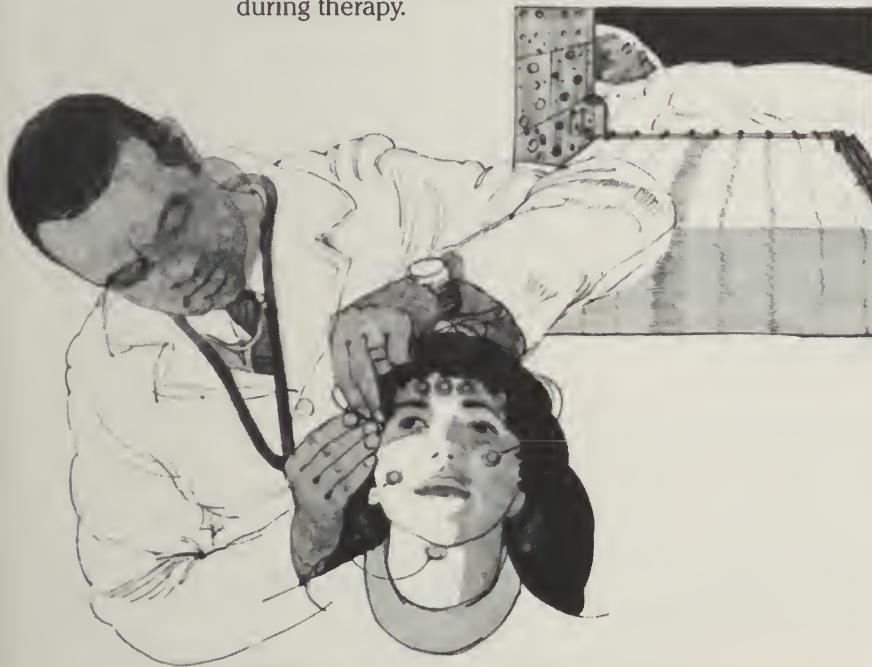
More convenient for your patients

Upjohn

The weight of objective evidence supports the clinical efficacy of Dalmane®^{IV} flurazepam HCl/Roche

15-mg/30-mg capsules

- Studied extensively in the sleep laboratory—the most valid environment for measuring hypnotic efficacy.¹⁻¹²
- Studied in over 200 clinical trials involving over 10,000 patients.¹³
- During long-term therapy, which is seldom required, periodic blood, kidney and liver function tests should be performed.
- Contraindicated in patients who are pregnant or hypersensitive to flurazepam.
- Caution patients about drinking alcohol, driving or operating hazardous machinery during therapy.



References: 1. Kales A et al: *J Clin Pharmacol* 17:207-213, Apr 1977 and data on file, Hoffmann-La Roche Inc., Nutley, NJ. 2. Kales A: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. 3. Zimmerman AM: *Curr Ther Res* 13:18-22, Jan 1971. 4. Kales A et al: *JAMA* 241:1692-1695, Apr 20, 1979. 5. Kales A, Scharf MB, Kales JD: *Science* 201:1039-1041, Sep 15, 1978. 6. Kales A et al: *Clin Pharmacol Ther* 19:576-583, May 1976. 7. Kales A, Kales JD: *Pharmacol Physicians* 4:1-6, Sep 1970. 8. Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc* 27:541-546, Dec 1979. 9. Dement WC et al: *Behav Med* 5:25-31, Oct 1978. 10. Vogel GW: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. 11. Karacan I, Williams RL, Smith JR: The

sleep laboratory in the investigation of sleep and sleep disturbances. Scientific exhibit at the 124th annual meeting of the American Psychiatric Association, Washington, DC, May 3-7, 1971. 12. Pollak CP, McGregor PA, Weitzman ED: The effects of flurazepam on daytime sleep after acute sleep-wake cycle reversal. Presented at the 15th annual meeting of the Association for Psychophysiological Study of Sleep, Edinburgh, Scotland, June 30-July 4, 1975. 13. Data on file, Hoffmann-La Roche Inc., Nutley, NJ.

Dalmane®^{IV}
(flurazepam HCl/Roche)

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; in acute or chronic medical situations requiring restful sleep. Objective sleep laboratory data have shown effectiveness for at least 28 consecutive nights of administration. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended. Repeated therapy should only be undertaken with appropriate patient evaluation.

Contraindications: Known hypersensitivity to flurazepam HCl; pregnancy. Benzodiazepines may cause fetal damage when administered during pregnancy. Several studies suggest an increased risk of congenital malformations associated with benzodiazepine use during the first trimester. Warn patients of the potential risks to the fetus should the possibility of becoming pregnant exist while receiving flurazepam. Instruct patient to discontinue drug prior to becoming pregnant. Consider the possibility of pregnancy prior to instituting therapy.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, e.g., excitement, stimulation and hyperactivity.

Dosage: Individualize for maximum beneficial effect. **Adults:** 30 mg usual dosage; 15 mg may suffice in some patients. **Elderly or debilitated patients:** 15 mg recommended initially until response is determined.

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.

ROCHE Roche Products Inc.
Manati, Puerto Rico 00701

Contemporary Hypnotic Therapy

Dalmane® [flurazepam HCl/Roche] Stands Apart

'83

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Only one
sleep medication
objectively
fulfills all these
important
criteria:

- Rapid onset of sleep.¹
- More total sleep time on the first 3 nights of therapy.¹
- More total sleep time on nights 12 to 14 of therapy.¹
- Continued efficacy for at least 28 nights.²
- Seldom produces morning hangover.³
- Avoids rebound insomnia when therapy is discontinued.^{1,4,5}



15-mg/30-mg capsules

Dalmane® ^{IV}
flurazepam HCl/Roche



Roche Products Inc.
Manati, Puerto Rico 00701

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Please see summary of product information on reverse side.

Medical Journal

Man versus Machine?

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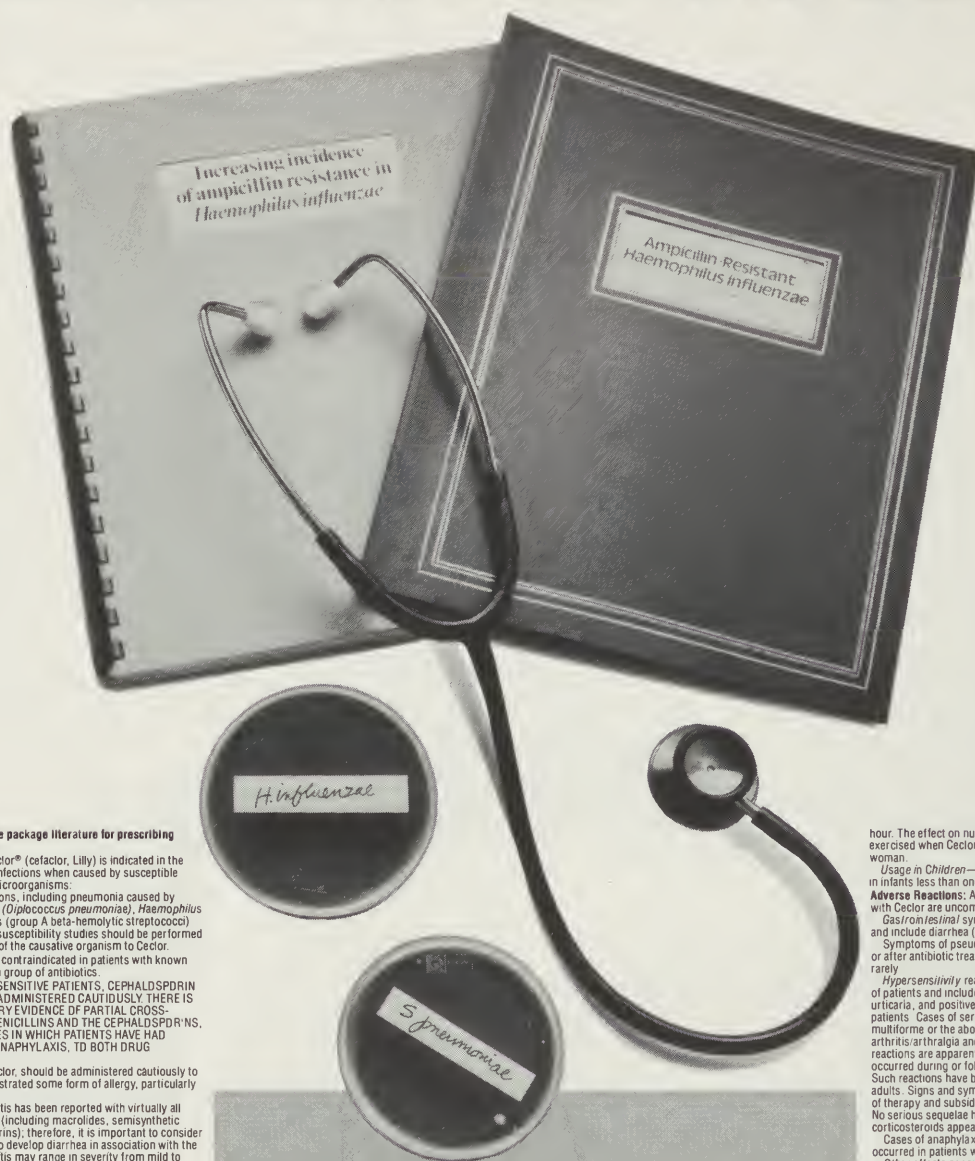
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27 HAVE YOU HEARD?

An added complication... in the treatment of bacterial bronchitis*



Brief Summary. Consult the package literature for prescribing information.

Indications and Usage: Ceflor® (cefalor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae* (*Diplococcus pneumoniae*), *Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci). Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceflor.

Contraindication: Ceflor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES.

Antibiotics, including Ceflor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics. Such colitis may range in severity from mild to life-threatening.

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis.

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone. In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation. When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile*. Other causes of colitis should be ruled out.

Precautions: General Precautions—If an allergic reaction to Ceflor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of Ceflor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug.

Ceflor should be administered with caution in the presence of markedly impaired renal function. Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Ceflor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinette® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

Usage in Pregnancy—Pregnancy Category B—Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Ceflor. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers—Small amounts of Ceflor have been detected in mother's milk following administration of single 500-mg doses. Average levels were 0.18, 0.20, 0.21, and 0.16 mcg/ml at two, three, four, and five hours respectively. Trace amounts were detected at one

Some ampicillin-resistant strains of *Haemophilus influenzae*—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Ceflor.¹⁻⁵

In clinical trials, patients with bacterial bronchitis due to susceptible strains of *Streptococcus pneumoniae*, *H. influenzae*, *S. pyogenes* (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Ceflor.⁷

Ceflor®

cefalor

Pulvules®, 250 and 500 mg

hour. The effect on nursing infants is not known. Caution should be exercised when Ceflor® (cefalor, Lilly) is administered to a nursing woman.

Usage in Children—Safety and effectiveness of this product for use in infants less than one month of age have not been established.

Adverse Reactions: Adverse effects considered related to therapy with Ceflor are uncommon and are listed below.

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70).

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment. Nausea and vomiting have been reported rarely.

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100), pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthritis and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceflor. Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic—Slight elevations of SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematologic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

[061782R]

*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.

Note: Ceflor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

References

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Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285.

Eli Lilly Industries, Inc., Carolina, Puerto Rico 00630

300035

Newsletter

Charles P. Shoemaker, Jr., MD, President
Norman A. Baxter, PhD, Executive Director
Wendy J. Smith, Editor

OCTOBER 1983

SOCIETY TO SPONSOR COMPUTER DEMONSTRATION IN OCTOBER

The Rhode Island Medical Society will sponsor a demonstration of the American Medical Association/General Telephone and Electronics Medical Information Network on Thursday, October 27, at 7:30 pm, in the Medical Society Auditorium, 106 Francis Street, Providence.

Known as the AMA/GTE Telenet, the system is designed to provide physicians with access to clinical, administrative, and medical practice information. Available features also include abstracts of clinical literature and an electronic mail system.

Reservations are required. Members interested in attending should call the Society's offices at 401/331-3207 for reservations.

• • •

SOCIETY PROVIDES VALUABLE REFERRAL SERVICE

One of the often-unrecognized benefits of membership in the Rhode Island Medical Society is that the Society serves as a source of potential patients.

An estimated 100-125 persons a week call the Society's offices seeking referrals or other information about physicians. The membership directory is used as the basis for providing the names of three physicians in the appropriate specialty and geographic area. The referrals are provided in random order.

Frequent inquiries are also received from the public as to the location of the patient records of physicians who have retired from active practice. These calls are especially heavy at the beginning of the school year when parents seek information about the immunization history of their children.

Members planning to retire should inform the Society's offices (331-3207) about the location of their patient records. This information will be retained in case of future inquiries.

• • •

DISABILITY DETERMINATION SERVICES INCREASES FEE FOR EXAMINATIONS

Effective September 1, physicians performing consultative examinations for the Rhode Island Disability Determination Services (DDS) will receive a significant additional allowance above the basic fee, if the complete evaluation is received within 15 calendar days of the examination. All ancillary testing (eg, x-ray films, blood testing results, and so forth), plus the signed and dated copy of the evaluation report, must be received within 15 days of the examination.

Physicians interested in performing consultative examinations should call James W. Dawson, Professional Relations Officer, Disability Determination Services, 24 Mason Street, Providence, Rhode Island 02903 (401/277-3178) for additional information.

DOCTORS SHOEMAKER AND HOFFMAN REPRESENT SOCIETY AT CHICAGO MEETING

Society President Doctor Charles P. Shoemaker, Jr. and Immediate Past President Doctor Melvin D. Hoffman represented the Rhode Island Medical Society at a Chicago meeting of the advisory committee for the "Health Policy Agenda for the American People" of the American Medical Association. Some 280 representatives of state medical and national specialty societies attended the two-day meeting in early September.

The program, which involves the leadership from the AMA, state medical societies, and national specialty societies, will result in a comprehensive set of national policy recommendations covering six critical components of medical care.

These include medical science, medical education, health resources, methods of health care delivery, evaluation of medical care, and payment mechanisms.

Preliminary recommendations generated by the Health Policy Agenda's work groups will be circulated to all state medical societies for their review and comment in mid-1984. The final recommendations are expected to be released late next year.

• • •

CARDIOVASCULAR INCIDENTS ARE THE LEADING CAUSE OF DEATH IN RHODE ISLAND

According to a recent report from the Rhode Island Department of Health and the Division of Vital Statistics, cardiovascular diseases were responsible for some 41 per cent (985) of the 2,419 deaths in the state during the first three months of 1983.

Other leading causes of death -- in descending order of frequency -- were malignant neoplasms, cerebrovascular diseases, chronic obstructive pulmonary disease (COPD), pneumonia, accidents (including traffic fatalities), diabetes mellitus, chronic liver disease, atherosclerosis, and suicide.

The number of deaths resulting from COPD and pneumonia rose sharply over the same three-month period in 1982.

The statistics also revealed the highest increase in live births during the first quarter in the past ten years. The 1983 rate of 13.1 births per 1,000 population was six per cent higher than the 1982 rate. It is 19 per cent lower than the comparable US rate of 15.6/1,000 population for the same period.

• • •

LAWYER GLUT?

US News & World Report recently reported that the American Bar Association is concerned that a sharp rise in the number of lawyers will lead to a decline in the profession's image and more complaints from clients if attorneys use delaying tactics, unnecessary litigation, and other strategies to maintain their incomes.

By the end of 1983, there will be 650,000 lawyers in the United States, or one for every 360 Americans. Forty per cent of the 1983 law graduates reportedly are having problems finding employment.

As a basis for comparison, the AMA has reported that, at the end of 1981, there were 485,123 physicians in the United States, of whom some 373,644 provided direct patient care. The others served in the military, as federal employees, or in administrative positions which did not involve direct patient care. This figure translates into one patient care physician for every 609 Americans.

HEALTH DEPARTMENT REQUIRES PHYSICIANS TO REPORT SUSPECTED OR CONFIRMED CASES OF AIDS

Effective August 22, the Rhode Island Department of Health added the acquired immune deficiency syndrome (AIDS) to a list of communicable diseases which must be reported to the Department's Division of Disease Control.

Physicians must inform the Department within 24 hours of the diagnosis or suspected diagnosis.

The other communicable diseases which also must be reported include amebiasis, anthrax, aseptic meningitis, botulism, brucellosis, cholera, diphtheria, encephalitis (anthropod borne), measles, epidemic diarrhea of the newborn, infectious hepatitis, serum hepatitis, histoplasmosis, lead poisoning, leprosy, leptospirosis, malaria, rubella, salmonellosis, psittacosis, plague, poliomyelitis, rabies, relapsing fever, rheumatic fever, rickettsioses, smallpox, tetanus, trichinosis, tularemia, and yellow fever.

BROWN HONORS DOCTOR RANDALL

Dr T. Henry Randall, Providence, received the W.W. Keen Award presented in conjunction with the June 1983 commencement exercises of the Brown University Program in Medicine. Dr Randall, a member of the Journal's Editorial Board and former chairman of the Annual Meeting and Awards Committee, served as Surgeon-in-Chief, Rhode Island Hospital, and Chairman, Section on Surgery, Brown University Program in Medicine, until his retirement in 1979.

The award was named after W.W. Keen, Brown University Class of 1859, who was an accomplished surgeon, writer, editor, and teacher, known for his innovative work on the nervous system and brain surgery. He is perhaps most famous for his clandestine surgery on President Grover Cleveland. Because of the political climate of the times, the operation was performed with utmost secrecy on a yacht in the middle of Long Island Sound. Dr Keen marched in commencement exercises at the university until his death at the age of 95 years in 1932.

PERSONNEL CHANGES AT SOCIETY HEADQUARTERS

Executive Director Dr Norman A. Baxter recently announced two new staff appointments at the Society's offices. Marion Sabella, a 1982 graduate of the University of New Hampshire, started as librarian in September. Ms Sabella will receive her Masters of Library Science degree from the University of Rhode Island in December. She replaces Lawrence Chionchio, who left the Society in late July for a position with the Computer Sciences Corporation of Middletown, Rhode Island.

Edwina L. Rego, East Providence, started as the Society's receptionist this month. She replaces Denise Salisbury, who took a position with Rhode Island Hospital.

GOVERNOR TO SPONSOR CONFERENCE ON HEALTH CARE COSTS

Governor J. Joseph Garrahy recently announced that a health policy forum on "Health Care Cost Management and the Business Community" will be held Thurs., October 20, on the Smithfield Campus of Bryant College. Featured speakers at the meeting included Dr James Davis, Vice-Speaker of the AMA House of Delegates and a noted authority on cost containment; Willis Goldbeck, Washington (DC) Business Group on Health; and Joseph Califano, former DHEW Secretary. Registration forms are available from the Society's offices (331-3207). For more on business coalitions and health care costs, see page 404 of this Journal.

PRACTICE MANAGEMENT QUESTION OF THE MONTH:

IS A COMPUTER FEASIBLE FOR MY PRACTICE?

The benefits of computerization have received more and more attention in the medical and lay press during the past five years, and computers have become a reality for many physicians because of the introduction of microprocessors and relatively inexpensive hardware. A computer remains a major investment, however, and many physicians are uncertain as to what a computer can and cannot do for their practices. A recent survey by a national specialty society revealed that 29 per cent of its 14,000 members had purchased an in-house computer. Most of these members were in larger group practices, while many of the organization's members who were in solo practice or in partnerships still used manual systems successfully.

We will examine some of the issues that physicians should evaluate when a computer is under consideration. The information has been extracted from practice management newsletters and news reports in the medical press.

A general caveat is that a computer cannot organize a disorganized practice. It may or may not be the solution to your problems. A manual system must be operating effectively and smoothly before a computer can improve the management of an office.

The Medical Society of the District of Columbia, which spent several years investigating computer systems for office practice, has suggested that a computer may be justified on the basis of billing and collections alone if your answer is affirmative to at least seven of the following questions:

- Does a full-time employee spend more than 50 per cent of his or her time on processing patient bills and third-party claims?
- Is the cost of an outside billing service more than \$300 each month?
- Are insurance forms "logjammed" in the office and not sent to the third-party payer because of incomplete or inaccurate data?
- Does it require more than five business days to complete and mail third-party forms?
- Does it take more than 15 days to receive payments from insurance companies?
- Are more than 250 patient statements mailed each month?
- Even though the patient load is stable, does the cash flow vary widely from month to month?
- Do patients and insurance companies often ask about the status of pending claims?
- Is there a significant number of outstanding patient accounts which are more than 90 days old?
- Does the practice receive frequent requests for year-end statements?
- Is a significant proportion (5-10 per cent or more) of the patient accounts written off as uncollectable? A collection rate of less than 90 per cent is regarded as a danger sign by most practice management experts.
- Is there frequent turnover of staff?

NEXT MONTH: What other factors should be considered?



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**Do You Know an
Impaired Physician?**

Treatment of physicians for alcohol addiction shows a favorable outcome in 83 per cent of cases, and treatment of physicians for drug addiction has a 95 per cent success rate. More than 70 per cent of the physicians entering treatment return to the active practice of medicine.

The Rhode Island Medical Society Committee on Impaired Physicians, chaired by Dr Herbert Rakatansky, meets monthly. It is a standing committee of the Society charged with "helping physicians whose professional judgments and capabilities are impaired by their difficulties with chemical dependency or other illnesses."

The Committee handles inquiries in *complete confidence*. If you know of a physician who needs an advocate and support in obtaining necessary treatment, please call or write Dr Rakatansky c/o The Committee on Impaired Physicians, Rhode Island Medical Society, 106 Francis Street, Providence 02903 (401/331-3207).

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Friday, October 28

The Process and Product of Medical Education

11:30 am-12:30 pm

John A. D. Cooper, MD — Keynote Speaker
President, Association of American
Medical Colleges

2:00 pm-4:30 pm

A look at the Brown experience with presentors from
Brown University's Program in Medicine

Saturday, October 29

**Cancer Treatment:
Past Accomplishments, Future Prospects**

9:00 am

Presentations of several papers on cancer:

Paul Calabresi, MD — *Moderator*
Isaiah J. Fidler, DVM, PhD
Robert C. Gallo, MD
James F. Holland, MD
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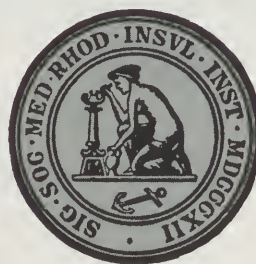
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1. Title of Publication: *Rhode Island Medical Journal*
2. Date of Filing: September 30, 1983
3. Frequency of issue: *Monthly*
4. Location of known office of publication: 106 Francis St., Providence County, Rhode Island 02903
5. Location of headquarters or general business offices of the publishers: 106 Francis St., Providence, R.I. 02903
6. Names and addresses of publisher, editor and managing editor:
Publisher: Rhode Island Medical Society, 106 Francis St., Providence, R.I. 02903
Editor: Seebert J. Goldowsky, M.D., 106 Francis St., Providence, R.I. 02903
Managing Editor: Wendy J. Smith, 106 Francis St., Providence, R.I. 02903
7. *Owner:* Rhode Island Medical Society, 106 Francis St., Providence, R.I. 02903
8. Known bondholders, mortgagees, and other security holder owning 1 per cent or more of total amount of bonds, mortgages or other securities: None

9. For completion by nonprofit organizations authorized to mail at special rates
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With the advent of microprocessors and relative inexpensive software, the computer revolution has become a reality for many physicians. For more on the impact of computerization, see pages 390 and 411.

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Rayner, MD, Douglas A.
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Rock, MD, H. Gerald
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Roan, MD, Wima D.
Rosenbaum, MD, Arnold S.
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Saklad, MD, Elihu
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Samson, MD, Charles F.
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Sayeed, MD, Syed M.
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Scheppe, MD, Barbara
Schoenfeld, MD, Eugene
Schweid, DO, Elliott L.
Scola, MD, Francis H.
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Sharma, MD, Elia
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Shetty, MD, Taranath
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Somlo, MD, Agnes
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Westlake, MD, Robert J.
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White, MD, Austin E.
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Wrobleksi, MD, Daniel E.
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Blasbal, OD, Melvin
Burchfield, OD, Barney R.
Burt, OD, Maynard S.
Celdarone, OD, Harold R.
Casey, Jr., OD, Charles H.
Cesaro, OD, Salvatore R.
Cesaro, OD, Thomas P.
Chellel, OD, Edward F.
Child, Jr., OD, A. Robert
Consiglio, OD, Michael
Contillo, OD, Raymond J.
Corrente, OD, William D.
DeCesare, OD, Paul A.
DeCesare, OD, Roland H.
Deresianski, OD, Merik S.
DiChiera, OD, Frank W.
Eudenebach, OD, Peter
Federici, OD, Everett J.
Fellman, OD, Hervay E.
Hackman, Jr., OD, Edmund T.
Hall, OD, Ronald J.
Handanyan, OD, Donald J.
Houle, OD, Emery A.
Iacobbo, OD, Alerino M.
Iannuccilli, OD, Michael R.
Jacobson, OD, Jeffrey L.
Kaplan, OD, Kenneth A.
Keller, OD, Fiorino A.
Kitbanoff, OD, Allan L.
Kitbanoff, OD, David A.
Koch, OD, D. Patricia
LaBrosse, OD, Guy E.
McVay, OD, Ernest H.
Miller, OD, Murray E.
Miller, OD, Robert E.
Mills, OD, David
Mittleman, OD, Joseph J.
Nemtsov, OD, Irving B.
Osmanski, OD, Joseph F.
Parent, OD, Paul E.
Pass, OD, Harry E.
Plakias, OD, Nicholas J.

Pugliese, OD, John R.
Reppoport, OD, Harvey D.
Rosati, OD, Alfred P.
Rosenfeld, OD, Stewart
Rowey, OD, Joseph L.
Serra, OD, Ronald J.
Sheehan, OD, Thomas M.
Simmler, OD, Conrad C.
Smiley, OD, Harrison
Surdut, OD, Scott H.
Thomas, OD, Laster L.
Tramonti, OD, James
Vito, OD, David A.
Woodcome, OD, Henry E.
Wright, OD, David G.

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Bigelli, DPM, Angelo
Cavichio, DPM, Charles M.
Cedrone, DPM, Dente
Cornell, DPM, Brian W.
DeCesere, Jr., DPM, Thomas
Feldman, DPM, Seymour
Gibbons, DPM, Robert W.
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Mendillo, DPM, Anthony
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Rothberg, DPM, Kopei M.
Segal, DPM, Kenneth M.
Singleton, DPM, Edward E.
Werber, DPM, Bruce R.

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Kant County Memorial Hospital
Memorial Hospital of Pawtucket
*Miriam Hospital
Notre Dame Hospital
Rhode Island Hospital
Rogers Williams Hospital
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Westerly Hospital
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Anthony's Drug
Aquidneck Professional Pharmacy
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Carreres Pharmacy
Charlestown Pharmacy
Colonial Pharmacy
DeBellis Pharmacy
Deleka Pharmacy
Forcier's Pharmacy
Gateway Pharmacy
Granite Drug of Coventry
Granite Drug Inc. of Westerly
Gregg's Pharmacy
Lee's Pharmacy
Manville Pharmacy
Meadowbrook Pharmacy
Meadowcroft Pharmacy
Medical Center Pharmacy
Portsmouth Pharmacy, Inc.
Slatersville Medical Center Pharmacy
Standard Pharmacy
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Cliniclab, Inc.
Coventry Medical Lab
Cranston Medical Lab, Inc.
East Side Clinical Lab
*Edgewood Medical Lab
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Hamlet Medical Lab
Kant County Clinical Lab
Liu's Medical Association
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Hospital for Sale

In *The New York Times* of September 4, 1983, it was reported that the Massachusetts General Hospital (MGH) is debating whether to sell its prestigious psychiatric division, McLean Hospital, to the Hospital Corporation of America (HCA). The MGH explains that it must raise millions of dollars to update the facilities of both institutions.

For HCA, which initiated the offer, acquisition of McLean would lend prestige and provide access to McLean's teaching and research for the growing group of psychiatric hospitals under the Corporation. HCA currently owns or manages 370 hospitals in 42 states, of which 24 hospitals are psychiatric facilities. Doctor Arnold Relman, Editor of the *New England Journal of Medicine*, looks upon HCA as a part of a new "medical-industrial complex" and a threat to the academic independence of a distinguished and wealthy hospital. He points out that after acquisition of hospitals, HCA and its for-profit competitors, who now own nearly 1,100 hospitals, often terminate such nonprofitable services as pediatrics and then raise prices or resell the property.

McLean Hospital is situated in Belmont, Massachusetts, an old Yankee community of some 27,000 souls. It lies on a 238-acre site, originally landscaped by the famed Frederick Law Olmstead, the landscape architect of Central Park in New York City and many other important sites. There is fear that HCA will sell off part of the land for development.

HCA has offered to rehabilitate McLean at a cost of some \$35 million and to underwrite all professorships, teaching, and research. It would further allow the Harvard Medical School (HMS) to control these activities through a committee

comprised of two-thirds Harvard faculty members and one-third HCA representatives.

Harvard Medical School has not yet approved the sale, and is studying the proposal in depth. Legally, the MGH can sell McLean without Harvard's approval, but since a major reason for HCA's interest is to achieve association with Harvard, the medical school has what amounts to a virtual veto power over the sale. HMS Dean Daniel C. Tosteson has appointed a committee of nine senior professors to probe the ramifications of the sale and to advise him. Relman sums up the situation in this way: "Here is the bastion of academic medicine, with the most distinguished teaching hospital in the country, if not in the world, face to face with the biggest, richest hospital company in the world. They want Harvard's imprimatur." He concludes that it will be a very important bell-wether of where we are going.

This is not the only flirtation of the MGH and Harvard with the medical-industrial complex. The MGH recently accepted an offer from the West German chemical giant, Hoechst AG, to finance a large division of molecular biology under the directorship of the brilliant Howard M. Goodman for the incredible amount of \$70 million over a ten-year period, probably the largest single grant ever made in biology. Twenty million dollars of the total will go for the construction of laboratories and equipment. Goodman, who, with others, was the first to accomplish the production of *E coli* through transfer of the genetic codes, believes that carefully-crafted contracts protect his and the hospital's academic freedom. In this, he appears to have the concurrence of the MGH, HMS, the National Institutes of Health,

and Congressional investigators, who wanted to assure that federal funds would not somehow subsidize the deal. For the princely grant, Hoechst gets its foot in the molecular biology door.

This is not quite the end to the HMS story. E. I. duPont de Nemours & Company recently gave Harvard Medical School \$6 million to be used by its department of genetics and Monsanto Company gave \$23 million to Harvard in 1977 for cancer research.

In return for promises of patents or licensing arrangements, Celanese Corporation has given Yale \$1.1 million for enzyme studies; Bristol Myers gave Yale \$3 million for the production of anticancer drugs; W. R. Grace and Company gave the Massachusetts Institute of Technology up to \$8.5 million for commercial applications of

microbiology research; and Monsanto Company gave to Washington University \$23.5 million for research of proteins and peptides and \$4 million to Rockefeller University for research in photosynthesis.

The significance of warnings of President Eisenhower about the dangers of the military-industrial complex was not clearly understood in his time. Likewise, the full impact or implications of these tremendous investments by business in academia will not immediately be clear. Yet we must not fail to heed the warnings of Relman and others that this newly-emerging medical-industrial complex may profoundly affect our future.

Seebert J. Goldowsky, MD

An Appreciation: John A. Dillon

The Publications Committee of the Rhode Island Medical Society and the Editorial Board and Editors of the *Rhode Island Medical Journal* wish to express their sorrow at the recent passing of Doctor John A. Dillon. Doctor Dillon was for many years a member of both the Publications Committee and Editorial Board and served faithfully as Chairman of the Publications Committee from 1971 to 1973. He was honored by the Society in 1983 for his years of distinguished service with the Charles L. Hill Award.

We shall miss his wise and kindly counsel.



John A. Dillon, MD (1913-1983)

Debunking the Dioxin Scare

Published elsewhere in this issue of the *Journal* is an excellent review, reprinted from *St. Louis Metropolitan Medicine*, the publication of the St. Louis (Missouri) Metropolitan Medical Society, updating the present knowledge regarding the chemical dioxin. In 1981, the AMA Council on Scientific Affairs issued a report (later published in the October 15, 1982 issue of the *Journal of the American Medical Association*) which maintained, after an extensive review of the literature, that the only permanent damage known to occur in human subjects is chloracne, which, however, can be disturbing and disfiguring. At the recent June 1983 session of the AMA House of Delegates, the following resolution introduced by the Missouri delegation was adopted:

That the American Medical Association institute an active public information campaign to get accurate information on dioxin before the public to prevent irrational reaction and unjustified public fright and to prevent dissemination of possible erroneous information; and that the AMA Council on Scientific Affairs be requested to update its 1981 report on dioxin.

The full text of the resolution including the explanatory "whereas" clauses is contained in the reprinted paper from St. Louis.

It may be suspected that the great interest of the St. Louis Society in this matter is not entirely disingenuous, since the Monsanto Company, makers of dioxin-containing preparations, is based in St. Louis. However, the weight of evidence appears to support the AMA, the St. Louis Society, and the Monsanto Company. The company is a party to several dioxin-related lawsuits involving a variety of issues, but common to all is dioxin exposure. Although there are 75 different dioxin compounds, according to Monsanto, the substance causing concern is 2, 3, 7, 8-tetrachlorodibenzo-para-dioxin, or TCDD, and usually called simply "dioxin."

The toxicity of this compound varies greatly from animal to animal species. Small amounts can kill a guinea pig, while rabbits, dogs, and ham-

sters can tolerate up to 7,000 times as much. Human subjects appear to be more tolerant than most animal species. An Italian study seemingly excludes birth defects as a result of exposure, a common occurrence, however, in mice. Studies indicating that dioxin causes soft tissue sarcoma in some animals are not duplicated in human subjects. Agent Orange, a herbicide containing traces of dioxin and used widely in Vietnam, has been blamed for widespread disabilities among Vietnam veterans. A US Air Force study of exposed personnel found no evidence of health problems caused by the chemical. A study of American chemical industry workers by the US National Institute for Occupational Safety and Health (NIOSH) revealed a higher-than-expected level of soft tissue sarcomas among workers in plants where dioxin was known to exist. Some of the cases, however, according to NIOSH, had never been exposed to dioxin. Doctor Raymond Suskind of the University of Cincinnati found that the soft-tissue cancers among the workers were so varied that they could not have had the same causes. His studies at a Monsanto plant in Nitro, West Virginia showed no increased cancer rates at all from any cause.

The National Academy of Sciences and the World Health Organization, in addition to the AMA, report no evidence that dioxin causes cancer or birth defects in human subjects. The only long-term health problem linked to dioxin in the numerous studies is an acne-like condition (chloracne) in some workers. More severe cases have lasted up to 30 years, but milder cases usually clear up promptly when exposure is terminated.

Monsanto claims that the preponderance of evidence suggests that dioxin has no other long-term human health problems, and this conclusion appears to have the support of prestigious authorities. It is time that the scare be laid to rest.

Seebert J. Goldowsky, MD



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PRESIDENT'S PAGE



PROs, Business Coalitions, and the Regulatory Burden

Two major efforts to address the costs of medical care are in progress, and I should like to touch on the Society's involvement with both.

Professional Review Organizations

The first involvement concerns peer review activities. During late 1981 and early 1982, professional standards review organizations (PSROs) in many other states did not survive massive federal budget cuts, and the entire program was recently dismantled and replaced with a new mechanism, professional review organizations (PROs). The new PROs will fulfill many of the same functions as their predecessor PSROs. The Rhode Island PSRO, now known as Health Care Review, Inc., emerged relatively unscathed from the budgetary process and is expected to apply for PRO designation. Under a complex set of federal regulations published earlier this summer, such non-physician organizations as Blue Cross/Blue Shield may also submit PRO bids. Their applications will be considered, however, only if no physician-supported organization has been approved during the first year of the bidding process.

American medicine was encouraged to support the original PSRO program after its enactment in 1972 so that physicians could continue to review their own professional activities. The unpalatable alternative, according to the then prevailing sentiment, was the prospect of review by a Washington-based bureaucracy. These concerns remain as paramount in 1983 as they were eleven years ago. As in 1972, the current threat is that, unless physicians organize, utilization review will be performed by Blue Cross/Blue Shield or other groups. In some states, the state medical society has applied for approval as a PRO. Because Health Care Review, Inc. has the computers, staff, and experience, it seems reasonable to expect that the organization will become the PRO for the state. The Rhode Island Medical Society, however, will continue to monitor developments



Charles P. Shoemaker, Jr., MD

and intervene if, for any reason, Health Care Review, Inc. does not receive the PRO contract and a non-physician organization applies for the designation.

Business Coalitions

The second major concern is the rise of business coalitions to address the costs of medical care. Business leaders are understandably frustrated by the explosive increase in medical insurance premiums for their employees. Recent experience has shown that labor unions are more willing to accept lower wages than relinquish medical benefits for themselves and their families. In Rhode Island, business and labor executives have met intermittently during the past year in an effort to find a solution.

While the Society has not been invited as yet to participate in this coalition, we have had an opportunity to state our concerns. We strongly

recommended that any coalition include participation by physicians. Among other problems, the lack of physician involvement may well result in an adversarial "us versus them" relationship, rather than a genuinely collaborative effort to resolve such thorny issues as an aging population and technological demands. The recent interest in liver transplantations and strong public support of insurance coverage for this procedure emphasize that the situation will continue to deteriorate.

At our recommendation, Governor J. Joseph Garrahy has invited Doctor James Davis, Vice-Speaker of the AMA House of Delegates and a recognized authority on cost containment, to address the Governor's Conference on Health Care Management, to be held later this month. The governor also was receptive to our proposal of a statewide coalition under the aegis of his office with full participation of the Rhode Island Medical Society.

Health Care Costs and the Regulatory Burden

During the course of a day, all of us encounter frequent examples of regulatory requirements which are costly, burdensome, and no longer accomplish their original objectives. While three examples are discussed more fully below, there are many other equally questionable requirements which could be cited. I encourage you to let the Society know of your concerns as to the impact of outdated regulations. The social and political climate may be ripe to seek changes.

Pre-marital physical examinations: Couples applying for marriage licenses must demonstrate evidence of a physical examination and negative results on a Wasserman or VDRL test. While we certainly do not intend to minimize the significance of sexually-transmitted diseases, it is naive to expect that

the incidence of syphilis and gonorrhea will be reduced as a result of pre-marital examinations, especially in these days of changing social mores. Just as we found routine chest x-ray films to be an ineffective method of controlling tuberculosis, we must also question the value of such physical examinations.

Physical examinations for school athletes: All Rhode Island students who participate in interscholastic sports must also have physical examinations, and in some cases an athlete participating in a second sport must have two examinations. Yet we continue to receive reports of the sudden deaths of young athletes, presumably because of congenital cardiac problems which were undetected during the "school physical." Perhaps it would be more effective to require a thorough examination, with such procedures as stress testing and electrocardiograms, once at the beginning of an adolescent's athletic activities, rather than to continue with annual and seasonal examinations.

Compulsory continuing medical education: As part of a malpractice reform package enacted in 1976, all Rhode Island physicians must demonstrate that they have accumulated at least 60 hours of continuing medical education (CME) during the previous three-year period. While CME appears laudable, it is nearly impossible to link specific courses to improved performance by physicians. Being a physician is a lifelong commitment to learning, and most of us far exceed these minimal state requirements. This law, however, has resulted in the rapid growth of CME programs, including some of dubious merit, and a state bureaucracy to verify physician compliance.

The climate of the times appears amenable for the Society to seek the elimination of such costly and ineffective requirements. If you are aware of any others, please let me know of your concerns.



SPECIAL REPORT

Dioxin, MSMA, AMA, and the Media

Kenneth R. Smith, Jr., MD

There has been a great deal of information and misinformation in the press, radio, and television recently concerning dioxin. The AMA Council on Scientific Affairs published a report in the *Journal of the American Medical Association* of October 15, 1982 concerning "The Health Effects of Agent Orange and Dioxin Contaminants." This report reviewed extensive literature concerning biologic effects on animals, experience in man, and current studies of Agent Orange, polychlorinated dioxin contaminants, etc. The only permanent human damage known to occur is chloracne, which can be disturbing and disfiguring.

A December 1982 study by the British Advisory Committee on "Pesticides: Report on Phenoxy Acid Herbicides," sponsored by the British Agrochemical Association and the Minister of Food, Agriculture, and Fisheries, reviewed some 23 studies, mostly retrospective case reports and some long-term follow-ups done since 1949, when 122 Monsanto workers at a Nitro, West Virginia plant, out of an estimated 250 employees who were exposed to toxic amounts of dioxin contaminants, developed chloracne. One hundred twenty-two chloracne subjects were followed, and there were no excess deaths over age-matched controls. A group of 500 residents were treated for presumed toxic symptoms from dioxin in Sevaso, Italy in 1969. One hundred thirty-four of these had confirmed chloracne. Long-term morbidity studies which are underway show their overall mortality rate is normal so far and these cases are being studied further.

Kenneth R. Smith, Jr., MD, is President of the St. Louis (Missouri) Metropolitan Medical Society. He is Professor and Chairman, Division of Neurological Surgery, St. Louis University Medical School, St. Louis, Missouri. This paper is reprinted with the permission of St. Louis Metropolitan Medicine.

Many pilots and plane crews in Vietnam were exposed to large amounts of dioxin when spraying Agent Orange, and so far there have been no excessive death rates in any of these who were exposed. There have been reports of polyneuritis and liver damage in several groups of people who were exposed to dioxin, and a 1964 study from Czechoslovakia of 78 patients with chloracne reported hypertension, hypercholesterolemia, pre-diabetes, porphyria cutanea tarda, and liver and nerve damage, but evidently any of the disease processes which could be directly related to dioxin cleared over a one-to-two-year period.

Some of the conclusions from both of these extensive reviews were:

We conclude that there continue to be no grounds for changing our present advice that formulations of 2, 4, 5-T herbicides as presently cleared, or, for that matter, other phenoxy-acid herbicides and related wood preservatives, do not pose a safety hazard, whether used in agriculture, forestry, the home and garden, or elsewhere. Such symptoms as impaired liver function, nephropathy, gastrointestinal irritation, myopathy and neuropathy, including depression and irritation of the central nervous system, have been reported after exposure to large amounts of TCDD; however, these symptoms have not been progressive, and they have always cleared with time. While 2, 4, 5-T and 2, 4-D pesticides have been used in agriculture, forest management, and commercial and residential landscaping for more than 30 years, there is still no conclusive evidence that they or TCDD are mutagenic, carcinogenic, or teratogenic in man, nor that they have caused reproductive difficulties in the human.

Both 2-4D and 2, 4, 5-T undergo rapid decomposition in the soil, and are, therefore, of little environmental concern. TCDD does persist in soil longer than 2, 4, 5-T, but in general its half life in soil is no longer than one year; and in the presence of ultra-violet light it breaks down rapidly when present as a thin film on plants, water, and the surface of soil.

Recommendations of both of these groups are that studies on exposed or allegedly exposed persons continue to be supported by cooperative arrangements and that all physicians be alerted to the classical signs of chloracne and the possible signs of TCDD exposure and to cooperate in the collection of vital information that is needed for the on-going human epidemiologic studies.

Why, then, if these bodies could find no evidence of severe health effects except chloracne, is the government of the United States and the State of Missouri spending \$33 million to evacuate people from Times Beach where there is some dioxin in the soil? After careful consideration of this matter, the Missouri State Medical Association adopted the following resolution:

Whereas, "dioxin" occurs in many forms, some non-toxic and another said to be the most powerful toxin known to man; and

Whereas, the dioxin forms 2, 3, 7, 8 TCDD are highly toxic to guinea pigs and variably much less so to other species of lab animals; and

Whereas, this form of dioxin can be found contaminating soils and waters in varying degrees in parts of the United States; and

Whereas, an AMA study (Report A of the Council on Scientific Affairs, I-81) has not found any documented human deaths directly attributable to dioxin poisoning, and very little morbidity; and

Whereas, from the same study, it is evident that no one knows or can truthfully say what level of body dioxin or environmental dioxin is dangerous to humans; and

Whereas, the news media have made dioxin the focus of a "witch hunt" by disseminating rumors, hearsay, and unconfirmed, unscientific reports, including quotes attributed to scientists whose quotes should have been "I don't know"; and

Whereas, the lives and well-being of many inhabitants of the regions contaminated with dioxin have been unnecessarily and ignorantly damaged by this hysterical malreporting; and

Whereas, the AMA and all the members of the medical profession have a duty to speak loudly when their patients are repeatedly frightened by this wave of hysteria; therefore be it

RESOLVED, that the American Medical Association institute an active public information campaign to get accurate information on dioxin before the public to prevent irrational reaction and unjustified public fright and to prevent dissemination of possible erroneous information; and be it further

RESOLVED, that the American Medical Association Council on Scientific Affairs be requested to update its 1981 report on dioxin.

The Missouri delegation took this resolution to the AMA and it was adopted by the AMA House of Delegates on June 22, 1983. The AMA was then criticized by members of Congress and some so-called experts in the field. An AMA Council on Scientific Affairs spokesman was quoted as saying that the AMA retracted or changed its stand on dioxin. The *New York Times* said the resolution was adopted "under a parliamentary rule that precluded debate." Both of these statements were untrue. The AMA did not change its stand on dioxin and there was ample opportunity in the House of Delegates to debate this resolution. The press misrepresented a congresswoman as accusing Doctor George Bohigan, one of the Missouri spokesmen, of a conflict of interest. In truth, the congresswoman was merely asking for information with no accusation being made. The fact that she was satisfied there was no vested interest was not reported. The controversial "whereas" clauses in this resolution were the statements sent

to the AMA House of Delegates by the Missouri State Medical Association House of Delegates. While they are not official AMA statements of policy, many of the delegates agreed with many or all of the "whereas" provisions.

Examples of the "wave of hysteria," "hysterical malreporting," and "witch hunt" can easily be pointed out. One such in the British press was "Portrait of a Poison: The 2, 4, 5-T Story" in which two deaths were attributed to soft tissue sarcomas after alleged exposure to these herbicides. After careful inquiry into the publicized cases, there were no reliable data to say that the people had been exposed to 2, 4, 5-T herbicides and it was established beyond doubt that in neither case was the tumor involved a soft tissue sarcoma.

The witch hunt was well-demonstrated in the *St. Louis Post-Dispatch*, where a July 1983 Engelhardt cartoon depicted dioxin as a gray ghost of death carrying a large book, entitled "Knowledge of Health Hazards." Another story in the newspaper quoted Mr. Ron Kusera, Deputy Director of the Missouri Department of Natural Resources, as saying that he invited dioxin experts to meet and concluded it is hard to make a judgment on how to handle the dioxin problem when no one has a definitive solution to the problem and one possibility is to burn one billion pounds of dioxin-contaminated soil in Missouri at a cost of \$1 per pound. Some congressmen told Mr. Kusera that \$78 million would be added to the Environmental Protection Agency (EPA) research and development authorization for study of dioxin problems.

It is sad to see the federal government spending \$78 million on additional EPA research on a chemical which has never been proven to cause severe permanent damage to humans, except a skin problem, when 1,000 people are dying premature deaths each day because of cigarettes, and almost 100 are dying each day because of drunken driving. It is unwise to spend this sum while cutting funds for education to a city and state who claim they are too poor to pay \$70 million additional funds for quality education as ordered by the courts.

There is no doubt that further information needs to be gathered about dioxin and that we cannot be absolutely certain that no one is ever going to have permanent harm or death from dioxin exposure, but workers who have been exposed to large amounts of dioxin have been followed for 33 years without permanent damage

except chloracne. Therefore, it seems unlikely that there is ever going to be an epidemic of death and serious disease from dioxin. We should devote our efforts to eradicating smoking, drunken driving, and hand guns which are killing many more people than dioxin ever will.

Correction

The pathological discussion in "Case Record: Rhode Island Hospital" which appeared in the June 1983 issue (*RI Med J*, 66:237-41) was incorrectly attributed to George F. Meissner, MD. R. N. Nayak, MD, Associate Pathologist at Rhode

All physicians in the AMA and the Missouri State Medical Association should strive diligently to see that accurate information is disseminated in the newspapers and on television and that the dioxin witch hunt and hysterical malreporting cease.

Filthy Habits Department

According to the company, Searle Laboratories researcher James M. Schlatter, MS, was engaged in peptide research in December 1965, searching for new drugs for ulcer therapy. *As he moistened his fingertips with his tongue to turn the pages of his research notebook*, he realized that some of the com-

Island Hospital and Assistant Professor of Pathology, Brown University Program in Medicine, was responsible for the pathological review of the case.

pound with which he was working had remained on his fingers and that it had an intensely sweet taste. The result was the dipeptide methyl ester now known as aspartame.

. . . Extracted from JAMA

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RADIOGRAPHIC CASE OF THE MONTH

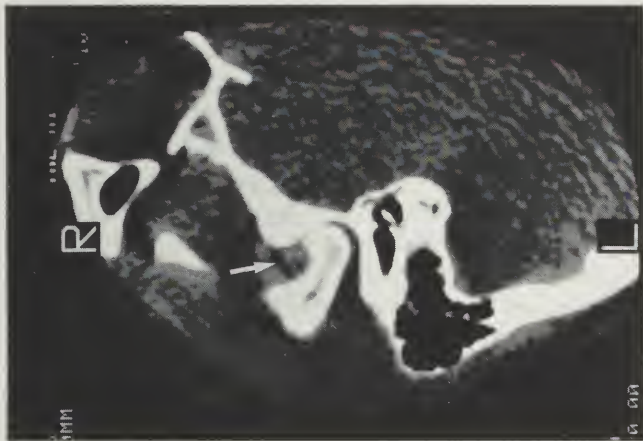


Figure 1

History

This is a 33-year-old female complaining of increasing pain in the right temporomandibular joint (TMJ) area of two years' duration. The patient also noted a clicking on the right with jaw opening. She has noted occasional difficulty with opening her mouth fully. She was referred for computed tomography of the TMJ.

Howard R. Cohen, MD
Allan M. Deutsch, MD
Michael J. Ryvicker, MD
Sanford L. Schatz, MD

Department of Radiology
The Miriam Hospital
Providence, Rhode Island

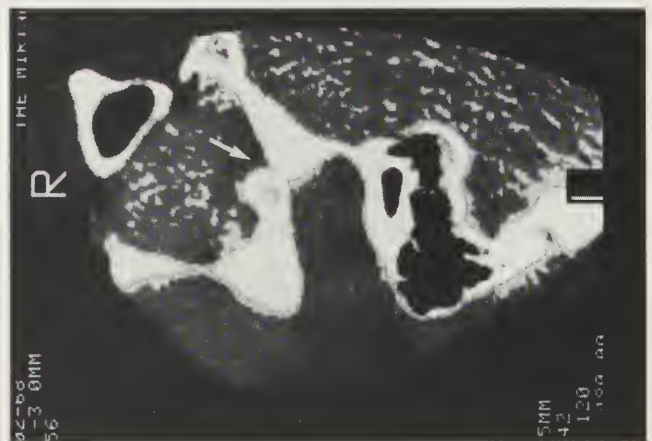


Figure 2

For discussion turn to next page.

Radiographic Findings

The first film (Fig 1) is a one-and-a-half millimeter thick cut done in the sagittal plane through the TMJ. Blink mode is used on the scanner to accentuate tissue densities. The examination shows that the temporomandibular condyle is normal and lies in normal position in relation to the temporal fossa. Anterior to the joint space (white arrow) is a high density tissue which represents the meniscus of the TMJ. This is dislocated anteriorly and is balled up in front of the joint. The second film (Fig 2) shows the same joint with the mouth open. At this time the condyle is translated normally to the forward slope of the articular eminence. The balled-up high density tissue seen with the mouth closed is no longer present, indicating that the anteriorly dislocated meniscus has been reduced.

Diagnosis

Anterior dislocation of the meniscus of the TMJ with reduction on opening of the mouth.

Discussion

There has been an increasing awareness of TMJ dysfunction as a cause of myofascial pain and noises. Approximately 90 per cent of patients with this problem are female. Radiographic diagnosis in the past has been done by plain film radiography, tomography, and arthrography of the TMJ. Arthrography has the disadvantages of being difficult, tedious, and somewhat painful for the patient, and plain films do not show soft tissues.

With the recent advent of computed tomography of the body, it is now possible to study the TMJ non-invasively and to evaluate the position of the meniscus. The meniscus should form a band of tissue between the mandibular condyle and temporal fossa. When the mandibular condyle opens, it should slide smoothly over the meniscus without any audible or palpable noise. A CT scan with the mouth closed should show no

high density tissue anterior to the joint. When the meniscus becomes dislocated anteriorly, as in this case, it forms a ball in front of the joint which causes the condyle on opening to have a disrupted motion and bounce over the balled-up meniscus. This anteriorly dislocated meniscus is visible on CT, and the patient can then feel a click which is frequently audible and palpable by the examining physician.

If the meniscal fibers become stretched or torn such that the mandibular condyle can no longer pass over them, the patient will then experience inability to open the mouth fully. This is an anterior dislocation without reduction. Meniscal dysfunction is thought in some cases to be a cause of pain removed from the primary site of the TMJ.

Treatment consists of using splint therapies to change the position of the condyle in relation to the fossa such that the meniscus is recaptured and remains in a normal position. There are also various surgical therapies available which consist of plication of the meniscus to move it back into a more normal position or excision of the meniscus with shaving of the condylar head.

Computed tomography of the TMJ is a new procedure. In the past, radiography of the TMJ allowed only for bone delineation. With the advent of computed tomography, soft tissues can now be delineated such that temporomandibular meniscal dysfunction can be imaged non-invasively.

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The Diagnostic Information System: A New Tool for Accurate Medical Decision-Making

*Looking for the Solution Without Understanding the Problem
Is Working in the Dark*

Robert D. Coli, MD

Modern medical practice, particularly in hospitals, is largely a problem of managing large volumes of information. Physicians currently need computers as well as stethoscopes to provide high quality, low-cost, and up-to-date care for their patients. If used correctly, both instruments can help to provide the information a physician must have to make appropriate diagnostic and therapeutic decisions.

The information which guides patient management decisions is derived from four primary sources: (1) the base of medical knowledge of the physician; (2) the personal history of the patient; (3) a direct physical examination of the patient by the physician; and (4) the diagnostic test results ordered by the physician and performed in the clinical laboratory and ancillary testing areas.

Accurate patient care decisions require rapid access to timely and complete information from all four sources. The probability of making a correct medical decision depends primarily on the accuracy and validity of the clinical and test information available at the time the decision must be made. The quality of medical care is directly related to the knowledge and experience of the physicians involved, their skills in interviewing and examining patients, and the ease, rapidity, and accuracy with which they can interpret the results of diagnostic tests.

The test result information in particular should be complete and displayed in a manner which emphasizes clinical patterns. Extraneous, incomplete, or poorly-displayed test information

reduces physician efficiency. They also reduce the quality and increase the cost of patient care. If the information from clinical and diagnostic tests is inadequate, the cost of obtaining additional information, both in terms of dollars and the effect on the patient, is significant.

The individual physician, of course, is solely responsible for the timeliness, accuracy, and completeness of information derived from the first three sources. After diagnostic tests are ordered, however, the doctor must rely on the hospital information system to display results in a useful manner.

The Problem

Practicing clinical physicians throughout the country have become increasingly frustrated when they discover that neither manual nor any available computer-based information systems have achieved the important goal of displaying test results in a standardized, usable manner.¹ To the practicing physician, who uses the results of thousands of diagnostic tests on a daily basis, the problem seems obvious and relatively simple: "Why can't the hospital gather, organize, and display test results from my patients in a way that helps me to do my job?"

In most of the 6,000 acute care general hospitals in the US, all test results are still recorded and displayed manually on slips of paper which are then inserted, more or less in chronological order, in the paper record of each patient. The rapidly increasing number of available tests and their sheer volume in the hospital setting have rendered these manual systems obsolete (Table 1).

In the past 15 years, more and more hospitals have used computers to enter, process, store, retrieve, and display diagnostic test results as one function of a Clinical Laboratory Information

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System (CLIS), or a hospital-wide Patient Care Information System (PCIS).²

Although new computer vendors have entered the hospital marketplace, and older systems have continuously evolved, the developers of software for clinical applications apparently do not understand the problem of clinical relevancy. Because they have not clearly understood the special needs of hospital physicians, many potential benefits of computers in patient care have not yet been achieved. In spite of attempts by virtually all commercial CLIS and PCIS vendors and numerous in-house development efforts, it is evident

software in hospitals, the emphasis has remained on "customizing" formats for test results, and as a result wide variations among hospitals have occurred. Data processing professionals know that much of the information for clinicians is displayed poorly, and that a more precise format would facilitate clinical decision-making. Yet the feasibility of a standard profession-wide format has been overlooked, apparently because of the highly-technical nature of some of the available tests, and the well-known desire of physicians and hospitals to include their individual preferences in the software design.

Table 1. Diagnostic Test Volume in Two Rhode Island Hospitals (1981-82)

	Kent County Hospital	Rhode Island Hospital
Total beds	369	719
Total operating expenses	\$38,703,792	\$123,291,203
Admissions (adult and pediatric)	16,059	23,029
Total surgery	13,085	18,464
Clinical laboratory tests (biochemical and microbiology)	1,290,350	2,247,896
Total pathology examinations	8,727	15,500
Standard X-ray studies	70,041	134,070
Special X-ray procedures	1,089	1,457
Nuclear medicine examinations	2,493	13,499
Cardiac ultrasound procedures	409	2,500
All other ultrasound procedures	2,657	3,651
CT scans	N/A	5,217
Electrocardiograms	15,237	47,959
Neurological examinations	1,356	4,065
Gastrointestinal endoscopic procedures	685	4,037
Total test volume	1,393,044	2,479,851

that "no two hospitals want their laboratory data reported in the same way." All attempts to solve the problem from the viewpoint of practicing physicians have failed.

A hypothetical analogy to the financial services industry helps to illustrate the situation that physicians face daily in our nation's hospitals. Imagine the reaction of investors if the financial pages were to list each stock at random and in a different exchange each day. Such a chaotic display of investment information would cause intolerable delays and prevent accurate financial management. While the same problem, in effect, exists in our hospitals, practicing physicians have had relatively little opportunity to participate in the development of a satisfactory solution.

Historically, vendors of applications software have not asked the most appropriate users, ie, physicians, to design a format for the reporting of cumulative test results. Despite an increasing trend to use standard (the so-called "canned")

One Solution

In 1979, after years of professional frustration with manual and automated systems, a practicing internist analyzed the problem and decided to develop a simple solution, the Diagnostic Information System® (DIS).

The computer-based DIS was designed to present results of the more than 1,600 available diagnostic tests in a comprehensive, standardized format which automatically indexes and organizes test results to facilitate their analysis and the rapid recognition of clinical patterns. Its unique way of displaying cumulative test results should prove useful in both acute and chronic care hospitals, and in various ambulatory settings where tests accumulate in smaller numbers, but over longer periods of time. On February 9, 1982, the US Commissioner of Patents formally issued US Patent No 4,315,309 for the DIS as an "Integrated Medical Test Data Storage and Retrieval System."³

RHODE ISLAND MEDICAL SOCIETY

BYLAWS

Effective May 25, 1983



ARTICLE 1. NAME

The name of this organization is the Rhode Island Medical Society.

ARTICLE 2. OBJECTIVES

The objectives of this Society are to promote the art and science of medicine and the improvement of public health; to promote friendly intercourse among physicians; and to enlighten and direct public opinion in regard to the problems of medicine.

ARTICLE 3. MEMBERSHIP

3.1 *Categories.* Categories of membership are: (1) Active Constituent; (2) Active Direct; (3) Associate; (4) Affiliate; and (5) Honorary.

3.11 *Active Constituent.* Active Constituent members are members of constituent societies who are entitled to exercise the rights of membership in their constituent societies, including the right to vote and hold office, as determined by their respective constituent societies, and who fulfill one of the following requirements: (1) possess the degree of Doctor of Medicine or its equivalent; (2) possess an unrestricted license to practice medicine and surgery; (3) are residents serving in training programs approved by the Accreditation Council on Graduate Medical Education; or (4) are medical students enrolled in a medical school approved by the Accreditation Council on Medical Education.

A person eligible for Active Constituent membership in the Rhode Island Medical Society becomes a member of the Society upon certification by the secretary of the constituent society to the Executive Director of the Rhode Island Medical Society, provided there is no disapproval by the Council.

3.12 *Active Direct.* Active Direct members are those members who are ineligible for membership in a constituent society as defined in Section 3.11, but who fulfill one of the following requirements.

3.12(1) *Military Officers.* Regular commissioned officers, commissioned medical officers of reserve components, and civilian employees who hold the degree of Doctor of Medicine, Bachelor of Medicine, or Doctor of Osteopathy, on active duty with or employed by the United States Armed Forces or the United States Public Health Service. Military officers and civilian employees as defined in Section 3.12(1) are admitted to membership upon application to the Executive Director, provided there is no disapproval by the Council. Such members may retain this membership while they are on active duty, and thereafter, if they have retired in accordance with federal laws, for as long as they are ineligible for membership in a constituent society.

3.12(2) *Federal Employees.* Civilian physicians employed on a full-time basis by any federal agency, except those included in Section 3.12(1), including the Veterans Administration, who are ineligible for membership in a constituent society. Federal employee members are admitted to membership upon nomination by the chief medical officer of the agency in which they are employed, provided there is no disapproval by the Council. Such members may retain this type of membership while they are employed by the federal government and thereafter, if they have retired in accordance with federal laws, for as long as they are ineligible for membership in a constituent society.

3.12(3) *Non-Members of Constituent Societies.* Physicians who hold the degree of Doctor of Medicine, Bachelor of Medicine, or its equivalent who are ineligible for active constituent membership as defined in Section 3.11. Such physicians are admitted to membership upon application to the Executive Director, provided there is no disapproval by the constituent society or by the Council of the Rhode Island Medical Society. Such members may retain this type of membership only as long as they are ineligible for membership in a constituent society.

3.12(4) *Residents.* Residents in training in programs approved by the Accreditation Council on Graduate Medical Education in areas where there is no provision for membership in a constituent society. Residents are admitted to membership upon application to the Executive Director with the endorsement by two Active Constituent members of the Rhode Island Medical Society on the staff of a hospital in which they are training, provided there is no disapproval by the Council.

3.12(5) *Medical Students.* Students enrolled in medical schools approved by the Accreditation Council on Medical Education who are studying for the degree of Doctor of Medicine in areas where there is no provision for membership in a constituent society. Medical students are admitted to membership upon application to the Executive Director if they are members in good standing of the American Medical Students Association or with the endorsement of two Active Constituent members of the Rhode Island Medical Society, provided there is no disapproval by the Council.

Rights and Privileges. Active Constituent and Active Direct members are entitled to receive the *Rhode Island Medical Journal* and such other publications as the Council may authorize.

Dues and Assessments. Active Constituent and Active Direct members are liable for such dues and assessments as determined by the House of Delegates. Active Direct members shall pay their annual dues and assessments to the Executive Director.

Exemptions. Upon written request, Active Constituent and Active Direct members may be exempt from dues on January 1 following their seventieth birthday. The Council may excuse other members from payment of dues, provided such exemption is consistent with the criteria for dues exemption of their constituent societies, and provided the request for exemption is transmitted through the constituent society to the Executive Director.

Delinquency. Members are delinquent if their dues and assessments are not received by the Rhode Island Medical Society by May 1 of the current dues year or by such other date as the Council may specifically determine. Delinquent members shall forfeit their membership in the Society if delinquent dues and assessments are not received by the Society within 30 days after notice of delinquency has been mailed to the member's last known address by the Executive Director.

3.13 Associate Members. Associate membership is limited to those physicians who hold the degree of Doctor of Medicine, Bachelor of Medicine, or Doctor of Osteopathy who are members of a constituent society but are ineligible for Active Constituent or Active Direct membership in the Rhode Island Medical Society. Associate members are admitted to membership upon certification by the secretary of the appropriate constituent society to the Executive Director, provided there is no disapproval by the Council. Such members may attend the annual session of the Society, but may not vote or hold office. Associate members are subject to dues as determined by the House of Delegates.

3.14 Affiliate Members. Persons who belong to one of the following classes may become Affiliate members: (1) physicians who are members of national medical societies of foreign countries; (2) American physicians located in foreign countries or in possessions of the United States who are engaged in medical, missionary, educational, or philanthropic endeavors; (3) dentists who hold the degree of DMD or DDS who are members of the American Dental Association and their state and local dental societies; (4) pharmacists who are active members of the American Pharmaceutical Association; (5) teachers of medicine or the sciences related to medicine who are citizens of the United States, but who are ineligible for Active or Associate membership; (6) individuals engaged in scientific endeavors related to medicine and others who have attained distinction in their fields of endeavors, but who are not eligible for other categories of membership; and (7) Physician's Assistants (PAs) who have met the requirements of the Rhode Island Board of Registration for Physician's Assistants, are employed within the jurisdiction of the Society, and are supervised by and responsible to a physician who is an Active member of the Society.

Affiliate members are admitted by a majority vote of the Council following nomination by the Executive Director. Such members may attend the annual session of the Society, but may not vote or hold office. Affiliate members are subject to dues as determined by the House of Delegates.

3.15 Honorary Members. Honorary membership is extended to physicians of foreign countries, other states, or territories who have achieved preeminence in the profession of medicine and other outstanding individuals in the health care field. Honorary members are elected by the House of Delegates upon nomination by the Council. Such members may attend the annual session of the Society, but

may not vote or hold office. Honorary members are not subject to dues or assessments.

3.2 Maintenance of Membership. A member may hold only one type of membership in the Rhode Island Medical Society at any one time. A member may retain membership only as long as he or she complies with the provisions of the Bylaws of the Rhode Island Medical Society and the Principles of Medical Ethics of the American Medical Association.

3.3 Transfer of Membership. Active Constituent, Active Direct, or Associate members who move to another jurisdiction or establish a medical practice in another jurisdiction may continue membership in the Rhode Island Medical Society without interruption by applying within one year for membership in the constituent society in the jurisdiction to which they have moved. Unless membership in the constituent society has been granted within two years after application, the Executive Director shall remove their name from the roster of members of the Rhode Island Medical Society.

3.4 Termination of Membership. The Executive Director, upon being officially informed that an Active or Associate member is not in good standing in a constituent society, shall remove the member's name from the roster of members.

3.5 Discrimination. Membership in any category of the Rhode Island Medical Society, or in any of its constituent societies, shall not be denied or abridged on account of color, creed, race, religion, ethnic origin, national origin, or sex.

3.6 Discipline.

3.6(1) Active Constituent Members. After due notice and hearing, the Council may censure, suspend, or expel any member for a violation of these Bylaws or the Principles of Medical Ethics. Notice of intention to file an appeal must be filed with the Council within 30 days of the decision. The appeal must be filed within 60 days of the notice of intent to file an appeal. The Council, for good and sufficient cause, may grant an additional 30 days for filing the appeal.

3.6(2) All Other Members. The Council, after due notice and hearing, may censure, suspend, or expel any Active Direct, Associate, Affiliate, or Honorary member for a violation of these Bylaws or the Principles of Medical Ethics who shall have the rights of appeal provided in Section 3.6(1).

ARTICLE 4. CONSTITUENT SOCIETIES

4.1 Definition. The constituent societies of this Society consist of those county or district medical societies which hold charters from this Society that are in full force and effect.

4.2 Charters. All charters issued by this Society continue in full force and effect until revoked or suspended. The Council, with the approval of the House of Delegates, may charter, as a constituent society, a medical society which is representative of the medical profession of a county or district as circumstances may dictate. The House of Delegates shall have authority to revoke the charter of any constituent society whose actions violate the letter or spirit of these Bylaws.

4.3 Qualifications of Members. Subject to the provisions of Section 4.4, each constituent society is the sole judge of the qualifications of its members and the acceptance of applicants is wholly at the pleasure of the constituent society. A constituent society may create classes or types of membership in

addition to the types of membership of this Society, but only members of the constituent society with the membership qualifications required by these Bylaws may be members of this Society.

4.4 Limitations. Constituent societies are subject to the following limitations: (1) The Bylaws of this Society and all subsequent amendments are the supreme law of the constituent society. If the Bylaws of this Society contradict the bylaws of a constituent society, the latter are void; (2) A constituent society may admit to Active membership only those members who meet the minimum requirements stated in Article 3, and reside or practice in the territorial jurisdiction of the Society, except as the rules and regulations of this Society may otherwise provide; and (3) A member against whom disciplinary action has been voted by a constituent society shall have the right to appeal to the Council of this Society and to the Judicial Council of the American Medical Association under such rules as those two bodies may adopt. However, the disciplinary action voted by the constituent society shall remain in effect while the appeal or appeals are pending.

4.5 Delegates and Councilors. Each constituent society is entitled to elect one Delegate to the House of Delegates of this Society for each twenty active members, or major fraction thereof, of the constituent society. Regardless of the total number of active members, each constituent society is entitled to elect at least one Delegate. Only Active members of this Society are eligible for election as Delegates or Alternates. The Delegates shall be selected by the constituent societies at their respective annual meetings, for one-year terms, which run from the meeting at which they were elected to the next annual meeting of the constituent society.

Each constituent society is entitled to elect one Councilor and one Alternate, who shall be Active members of the Society, and who shall serve one-year terms beginning at the close of the annual meeting at which they are elected.

4.6 Vacancies. If a Delegate or Councilor elected by a constituent society dies, resigns, ceases to be a member in good standing of the Society, becomes disabled, or for any other reason cannot assume the duties of his or her office, or will be absent from a session of the House of Delegates of this Society, the president of the constituent society may appoint another member to serve in his or her place during the balance of the term or during the disability or absence, as circumstances may permit. As soon as possible after the appointment, the president of the constituent society shall notify the Secretary of the Society of this action.

4.7 Secretaries' Duties. The secretary of each constituent society shall keep a roster of its members, grouping the members according to the type of membership held. With respect to each member, the roster shall contain the full name, address, date of birth, professional college and date of graduation, the date the member was licensed to practice in this state, and such other information as the Secretary of this Society may require. In keeping such records, the secretary shall note any change in the membership roster as the result of death or removal and shall so notify the Secretary of the Society. The secretary of the constituent society shall promptly notify the Secretary of the Society of losses of membership, giving the causes of individual cases.

4.8 Membership and Place of Residence. Any doctor of medicine residing near a county or district line may be elected to membership in that constituent society whose meetings will be most convenient for him or her to attend, if the action is

acceptable to the constituent society where the physician resides.

Any doctor of medicine, who has his or her major office or professional practice in one county or district and resides in another county or district, has the option of applying for membership in either constituent society if the action is acceptable to both constituent societies.

ARTICLE 5. OFFICERS

5.1 Officers. The officers of this Society are the President, President-Elect, Vice-President, Secretary, Treasurer, Speaker and Vice-Speaker of the House of Delegates, and AMA Delegate and Alternate Delegate. Only an Active member of this Society is eligible for election or appointment as an officer.

5.2 Election and Terms of Officers. The House of Delegates at its annual meeting shall elect the following officers to serve one-year terms: President, President-Elect, Vice-President, Secretary, Treasurer, and Speaker and Vice-Speaker of the House of Delegates. At the annual meeting in even years, the House shall elect the Delegate and Alternate Delegate to the American Medical Association to serve two-year terms.

The Council shall authorize a Nominating Committee to include the President, two Councilors, and two Delegates who do not serve on the Council. A list of nominees approved by the Council shall be mailed to the House at least one week before the annual meeting. Other nominations may be made from the floor of the House by any voting member of the House. All elections shall be by ballot, and a majority of the votes cast shall be necessary to elect.

The officers elected by the House, except for the AMA Delegate and Alternate Delegate, shall assume office at the close of the annual session of the Society and shall serve until the next annual session. The AMA Delegate and Alternate Delegate shall assume office on January 1 following their election in accordance with the Constitution and Bylaws of the American Medical Association.

5.3 Vacancies. If the President dies, resigns, is removed, or becomes disqualified before the expiration of his or her term, the Vice-President shall succeed to the office of President, with all its prerogatives and duties. Vacancies created by the death, resignation, or removal of other officers shall be filled by appointment by the Council for the unexpired portion of the term, except in the case of vacancy in the office of President-Elect when the Council shall submit a nominee to the House of Delegates.

5.4 Duties. In addition to the rights and duties provided elsewhere in these Bylaws or as custom or parliamentary usage may require, the officers shall have the rights and duties respectively assigned to them in the succeeding sections of this article.

5.4(1) President. The President shall be responsible for the following rights and duties: (1) to preside at all general meetings of the Society and of the Council; (2) to serve as a member of the House of Delegates, Council, and Executive Committee;* (3) to deliver an address at the annual session; (4) to act as the spokesman of the profession in the state,

* By action of the AMA House of Delegates in June 1983, the Presidents of State Medical Societies also shall serve as additional alternate delegates to the AMA House of Delegates.

and when advisable or necessary to visit personally, or appoint a representative to visit, the various constituent societies and to assist the councilors in strengthening the constituent societies; (5) to appoint delegates to other medical societies to serve for a one-year term and an anniversary chairman to preside at the next annual dinner; (6) to appoint and discharge all committees not otherwise provided for; and (7) to serve as an ex officio member of all committees.

5.4(2) Vice-President. The Vice-President shall assist the President in the discharge of his or her duties and shall officiate for the President during his or her absence or upon request. He or she shall serve as a member of the House of Delegates, Council, and Executive Committee.

5.4(3) President-Elect. The President-Elect shall, through active aid to the President and membership on the Council, House of Delegates, and Executive Committee, obtain the greatest possible knowledge of the affairs and personnel of the Society, to enable him or her to fulfill effectively the office of President upon succession.

5.4(4) Secretary. The Secretary shall be responsible for the following rights and duties: (1) to keep minutes of the proceedings of the general meetings of the Society, the meetings of the Council, and meetings of the House of Delegates; (2) to be the custodian of the Society's seal; (3) to notify members of meetings, officers of their elections, committee members of their appointments and duties, and to send all notices required by these Bylaws, by order of the House of Delegates or the Council, or by law; (4) to provide for the registration of members and delegates at general sessions of the Society and of the House of Delegates and to keep a record of such registration; (5) to keep a register of all constituent societies, their respective officers, and all members of the Society, and to transmit a copy of this list to the American Medical Association with the names of new members and the names of those dropped from the membership roster; (6) to keep a register of all licensed physicians in the state who are members of the Society, by county, noting the status of each in relation to the appropriate constituent society; (7) to be the custodian of all record books and papers of the Society, except those which properly belong to the Treasurer; (8) to report annually to the House of Delegates; (9) to prepare and issue all programs as may be directed by the Annual Meeting and Awards Committee; (10) to aid the Council on the organization and improvement of the constituent societies and in the extension of power and usefulness of this Society; (11) to perform such other duties as may be required by the Council or the House of Delegates; (12) to serve as an ex officio member of all standing committees; and (13) to serve as a member of the House of Delegates, Council, and Executive Committee.

5.4(5) Treasurer. The Treasurer shall have the following rights and duties: (1) to serve as a member of the House of Delegates, Council, and Executive Committee; (2) to maintain the records of the dues of each member and to demand and receive all funds due the Society, including bequests and donations; to deposit these funds in a depository approved by the Council; and to keep an accurate record of all funds of the Society; (3) to present a budget of necessary expenses of the Society for the following year to the Council, for its approval, at the Council meeting preceding the House of Delegates meeting in September, and to pay all bills within the scope of the approved budget; (4) to pay bills not

within the scope of the approved budget only on order of the Council; (5) to invest the funds of the Society under the supervision of the Council; (6) after receiving the recommendation of the Council, to sell, mortgage, or lease any property belonging to the Society, and to execute the necessary legal documents thereto; (7) when directed by the House of Delegates, to sue in the name of the Society and to prosecute such suits to final judgment and execution; (8) to subject the accounts of the Society to annual examination by the auditors; (9) to render an account of his or her work and of the state of the funds of the Society annually, and to present such other written reports as the House of Delegates or Council may require; (10) to employ such assistants as may be authorized by the Council; and (11) to give bond in such sum as may be fixed by the Council, the premium on such bond to be paid by the Society.

5.4(6) Speaker of the House of Delegates. The Speaker shall preside at the meetings of the House of Delegates and shall perform such duties as custom and parliamentary usage may require. The Speaker may address the House of Delegates at the opening of each meeting, limiting comments to matters of conduct and procedure in the House. The Speaker is entitled to vote when the vote is by ballot or roll call. In all other cases, the Speaker shall have the right to vote only in the case of a tie.

5.4(7) Vice-Speaker of the House of Delegates. The Vice-Speaker of the House of Delegates shall officiate for the Speaker in the latter's absence or upon request. In case of death, resignation, or removal of the Speaker, the Vice-Speaker shall officiate during the unexpired term. The Vice-Speaker is entitled to vote when the vote is by ballot or by roll call.

5.4(8) AMA Delegate. The Delegate shall represent the Society at the American Medical Association in conformity with the applicable provision of the Constitution and Bylaws of the American Medical Association.

5.4(9) AMA Alternate Delegate. The Alternate Delegate to the American Medical Association shall function for the Delegate in the latter's absence or upon request. In case of death, resignation, or removal of the Delegate, the Alternate Delegate shall function as the Delegate for the remainder of the unexpired term.

5.5 Reports of officers. The Secretary, for the Council, and the chairmen of committees, shall prepare reports, preferably in writing, for the consideration of the House.

ARTICLE 6. HOUSE OF DELEGATES

6.1 General Powers. All legislative power of the Society is vested in and resides in the House of Delegates, which alone shall have authority to determine the policies of the Society. It shall: (1) elect all the officers; (2) elect such delegates to the American Medical Association to which the Society may be entitled; (3) elect the standing committee members; and (4) determine the annual dues and assessments.

6.2 Composition. The House of Delegates shall be composed of:

6.2(1) Delegates elected by the constituent societies. Each constituent society is entitled to elect one Delegate for each 20 Active members in good standing, or major fraction thereof, exclusive of resident physicians in good standing, with the added provision that each constituent society shall be entitled to elect at least one Delegate.

6.2(2) One Delegate from each officially recognized specialty society. An officially recognized specialty society must

have at least 12 dues-paying members of the Society, must have its request approved by the Council and the House of Delegates, and its Delegate must be a member of the Rhode Island Medical Society in good standing.

6.2(3) The President, President-Elect, Vice-President, Secretary, Treasurer, Immediate Past President, Speaker, Vice-Speaker, and AMA Delegate and Alternate Delegate.

6.2(4) Without the power to vote unless elected as a Delegate from a constituent society or an officially recognized specialty society, the Editor-in-Chief of the *Rhode Island Medical Journal*, the Director of the Rhode Island Department of Health, and the presidents of the constituent societies.

At his or her discretion, the President may appoint a parliamentarian who shall serve without a vote unless he or she is a Delegate from a constituent society or an officially recognized specialty society, or serves as an officer of the Society.

6.3 *Tenure of Office.* A Delegate to the House of Delegates of the Rhode Island Medical Society may serve a maximum of six successive years, and shall be ineligible for re-election as a Delegate for at least one year after such a six-year tenure.

6.4 *Time of Meeting.* The House of Delegates shall meet in January and September, and also in annual session each year at such place and time as the President may determine. The House may be called into special session at any time during the year by the President at his or her discretion or on the written petition of 15 Delegates or 50 members.

6.5 *Reporting of Proceedings.* When the House of Delegates meets, the Secretary shall publish a summary of the proceedings as soon as possible in the Society's official publication.

6.6 *Conduct of Business.* The House of Delegates shall be presided over by the Speaker, and in the absence of the Speaker by the Vice-Speaker, and in the absence of the Vice-Speaker by the President, and in the absence of the President by any Delegate agreeable to the House of Delegates. Twenty delegates shall constitute a quorum for the transaction of business. The Secretary shall record the proceedings.

The House of Delegates may, by a two-thirds vote of its own members, submit any question before it to the membership of this Society for a general referendum by ballot sent by mail and it shall be bound by the result.

6.7 *Duties and Powers*

6.7(1) *Special Committees.* The House of Delegates may appoint committees composed of any members of the Society for special purposes or it may provide for such committees and authorize the appointment of members by the President. Such committees shall report to the House of Delegates. Members of such committees may participate in discussion and debate on their reports, but shall not have the right to vote unless they are Delegates.

6.7(2) *Fixing of Annual Dues.* The House of Delegates at its September meeting shall determine dues for the following fiscal year.

ARTICLE 7. THE COUNCIL

7.1 *General Powers.* The Council shall implement the mandates and policies of this Society as determined by the House of Delegates or by referendum or initiative measures. Subject

only to the provisions of these Bylaws, actions of the House of Delegates, and measures initiated at the general session of the Society, the Council has full and complete power and authority to perform all acts and to transact all business for the Society and to manage and conduct all of the property, affairs, work, and activities of the Society.

7.2 *Composition.* The Council shall consist of the Councilors elected by the constituent societies; the five most recent living past presidents of the Society, if active members; the President, President-Elect, Vice-President, Secretary, Treasurer, and Delegate and Alternate Delegate to the American Medical Association; and without the power to vote, the other past presidents of the Society, the presidents of the constituent societies, and the Speaker and Vice-Speaker of the House of Delegates.

7.3 *Election and Tenure of Councilors.* Each constituent society shall be entitled to elect one Councilor and one Alternate to the Council who shall assume office at the end of the annual meeting of the constituent society and serve until its next annual meeting. A councilor may serve a maximum of six successive years and shall be ineligible for re-election as a councilor for at least one year after each six-year tenure.

7.4 *Meetings.* The Council shall meet bi-monthly at such time and place as the President may determine. The President may call a special meeting of the Council on his or her own motion and must call a special meeting on the written request of seven members of the Council. Twelve members shall constitute a quorum. The President shall preside at the meetings of the Council, and in his or her absence, the Vice-President and President-Elect in order. The Secretary shall keep a record of its proceedings.

7.5 *Duties and Powers.*

7.5(1) *Ethics.* In addition to the duties and powers conferred on the Council elsewhere in these Bylaws, the Council shall act as the arbiter of the Society on ethical issues and questions involving the rights and standing of members, whether in relation to other members, to the constituent societies, or to this Society. When its jurisdiction is invoked as provided in Section 3.6, it shall review instances in which disciplinary orders or measures have been adopted by a constituent society against a member.

7.5(2) *Appeals and Disciplinary Proceedings.* A member of a constituent society who is censured, suspended, expelled, or otherwise disciplined by his or her constituent society, may file a notice of appeal to the Council within 30 days of such disciplinary order for a determination of applicable questions of law and procedure, but not of fact. Appeals shall be in writing and must be filed with the Secretary within 60 days of the notice of appeal. On the filing of an appeal, the Secretary shall notify other members of the Council. Appeals shall be heard by the Council only after reasonable notice in writing of not less than ten days of the time and place of the hearing on the appeal has been given to the appellant member and the president and secretary of the constituent society.

In every case of appeal, the Council, before any hearing of the appeal, shall exert all proper efforts at conciliation and compromise. The decision of the Council shall be final and bind the appellant member and the constituent society, unless the matter is carried on a timely basis to the Judicial Council of the American Medical Association.

7.5(3) *Compensation of Officers and Employees.* The

Council shall fix the compensation of the officers, representatives, and employees of the Society.

7.5(4) *Executive Director.* The Council may employ an Executive Director of the Society after authorization by the House of Delegates.

7.6 *Executive Committee of the Council.* The Executive Committee shall transact the business of the Society during intervals between Council meetings and function in an advisory capacity to the President in his or her role as a public spokesman for the Society. The Executive Committee of the Council shall consist of the President, President-Elect, Vice-President, Secretary, Treasurer, and Immediate Past President. Meetings of the Executive Committee shall be called at the discretion of the President. All Executive Committee actions shall be reported to the Council at its next meeting.

7.7 *Report to the House of Delegates.* The Council shall report at each session of the House of Delegates on the state of the Society and the work and proceedings of the Council during the interval since the last session of the House.

ARTICLE 8. SESSIONS AND MEETINGS

8.1 *Sessions of the Society.* The Society shall hold an annual session at such place and time as the President may determine. The Secretary shall give each member at least seven days' notice of the annual session.

8.2 *General Meetings.* During the annual session, there shall be at least one general meeting open to all registered members. The general meeting may recommend to the House of Delegates the appointment of committees or commissions for scientific investigations of special interest and importance to the profession and the public. The general meeting, by a two-thirds vote of the members present, may order a general referendum on any question pending before the House of Delegates. When so ordered, the House of Delegates shall submit such question to the members of the Society by mail ballot. A majority of such votes shall determine the question and be binding on the House of Delegates. The general meeting may receive and vote on resolutions introduced at any session, but the resolutions shall not be binding on the Society until approved by the House of Delegates.

8.3 *Special Sessions.* A special session of the Society may be called by the President at his or her discretion and must be called on the written petition of 50 members.

8.4 *Right of Members to Participate.* All members of the Society may attend, and except as otherwise limited, may participate in the annual session held by the Society, subject only to such reasonable parliamentary rules as may be adopted. Members may also attend meetings of the House of Delegates, except when the House of Delegates is in executive session. Except with the consent of the House of Delegates, however, no member who is not a Delegate may have the privilege of the floor.

8.5 *Registration Required.* Before a member can attend and participate in proceedings or activities of the annual session, he or she must register under such procedures as the Secretary may determine.

8.6 *Guests.* The privilege of attending the annual session may be extended to guests under such conditions as the Secretary may determine.

ARTICLE 9. FINANCE

9.1 *Raising of Funds.* Funds for conducting the affairs of the Society may be raised: (1) by such annual dues from members of the Society as the House of Delegates may determine at its September meeting; (2) by such special assessments on members as the House of Delegates may determine; (3) by voluntary contributions, devises, bequests, and other gifts; and (4) in any other manner approved by the House of Delegates.

9.2 *Fiscal Year.* The fiscal year of this Society is from January 1 to December 31.

9.3 *Supervision.* Supervision of funds, investments, and expenditures of the Society is vested in the Council. The Council shall receive the audited accounts of the Treasurer and other agents of the Society and present a statement of those accounts in its annual report to the House of Delegates. It shall report on all resolutions appropriating money and shall submit such report to the House of Delegates for authorization or approval. At the meeting of the House of Delegates in September, the Council shall submit a budget for the expected income and expenses of the necessary appropriations and impose such conditions on the expenditure of the funds so appropriated as it sees fit, provided, in the case of an emergency, the Council may authorize the expenditures of funds for items not included in the budget that year.

ARTICLE 10. STANDING COMMITTEES AND BOARDS OF TRUSTEES

10.1 *Names of Standing Committees and Election of Committee Members.* The standing committees of the Society, of which the President and Secretary shall be ex officio members, shall include in alphabetical order: Annual Meeting and Awards, Impaired Physician, Library, Mediation, Medical Economics, Occupational Health, Public Laws, Publications, Standards and Credentials, Trustees of the Caleb Fiske Fund, and Trustees of Special Funds. Except as noted below, committee chairmen and members shall be elected by the House of Delegates at its annual meeting for one-year terms. They shall assume office at the close of the annual session of the Society and shall serve until the next annual session. The nomination process for committee chairmen and members shall be the same as described in Section 5.2.

10.1(1) *Annual Meeting and Awards.* The Annual Meeting and Awards Committee shall consist of nine members elected by the House of Delegates. The committee shall determine the character and scope of the scientific proceedings of the Society for each annual session, subject to instruction of the House of Delegates. It shall be the duty of the committee to provide a suitable place and to make all necessary arrangements for the annual meeting of the Society. The committee shall prepare and issue at least seven days before each session a program announcing the order in which papers, discussions, and other business shall be transacted. The committee also shall be responsible for selecting recipients of the Chapin Oration Award and other awards and presentations made at the annual session.

10.1(2) *Impaired Physician.* The chairman of the Committee on the Impaired Physician shall be elected by the House of Delegates. The chairman, with the advice and consent of the President, shall appoint the committee members. The committee shall be charged with providing aid and

assistance to physicians whose professional judgments and capacities are impaired by their difficulties with chemical dependencies or other illnesses.

10.1(3) *Library.* The Library Committee shall consist of nine members elected by the House of Delegates. The committee shall have charge of the Library of the Society and shall have custody of all books and pamphlets published by the Society and Trustees of the Fiske Fund. It shall appoint some suitable person Librarian, the amount of whose compensation shall be approved by the Council, and it shall make rules concerning the use of the Library. The Librarian shall keep a list of all additions to the Library, see that the Library is open for reference at such hours as the committee may direct, compile the necessary catalogues and reference lists, loan books from the Library only on receipts, and perform such other duties as may be assigned by the committee.

10.1(4) *Mediation.* The Committee on Mediation shall consist of 10 members. The committee shall elect a chairman and a vice-chairman to serve for annual terms. Annually, the President of the Society shall appoint one member for a term of 10 years to replace the member whose term expires. The President may appoint himself or herself, or reappoint a member whose term expires, but all appointees must be members in good standing of the Rhode Island Medical Society. If a vacancy occurs on the committee, the President, with the advice and consent of the Council, shall appoint a member to complete the unexpired term.

The committee shall review all cases of threatened or instituted action for malpractice against any member of the Society, and shall also investigate all complaints concerning the professional conduct of members referred to it.

The committee shall have authority to require the attendance of any member to answer allegations of unprofessional conduct, upon at least seven days written notice to the member. Failure of the member to appear before the committee without justifiable cause shall be reported to the Council for disciplinary action. The committee, after investigation, shall have the authority to prefer charges of unethical or unprofessional conduct against a member to the Council.

10.1(5) *Medical Economics.* The Committee on Medical Economics shall consist of nine members elected by the House of Delegates. The committee shall be charged with investigating issues related to the costs of delivery of medical care and recommend ways of containing medical care costs to the public, insurance companies, governmental agencies, and other organizations. It shall be concerned with health insurance programs and medical service plans. It shall initiate or make recommendations to the Council on group insurance programs and services for the benefit of the membership.

10.1(6) *Occupational Health.* The Committee on Occupational Health shall consist of nine members elected by the House of Delegates. The Committee on Occupational Health shall keep itself informed concerning: (1) actual conditions and practices in industry affecting or relevant to the health and well-being of industrial workers; (2) the medical care rendered as a result of industrial accidents or occupational diseases; and (3) legislation pertinent to the field of occupational health. The committee shall also study, determine, and advocate such measures as in its judgment will improve the welfare of the industrial worker. Such a committee shall cooperate with other agencies having a legitimate

interest in the health of industrial workers. It shall coordinate its activities, so far as possible, with the activities of the American Medical Association.

10.1(7) *Public Laws.* The Committee on Public Laws shall include seven members elected by the House of Delegates. With the advice and consent of the President, the Chairman may appoint additional members based on their individual areas of interest or expertise. The committee shall keep itself informed with respect to laws, court decisions, court proceedings, administrative rules, and proposed and pending legislation relating to public health and such other matters as relate to the objectives of the Society. The committee shall recommend appropriate positions on proposed legislation and regulations to the President and Executive Committee.

10.1(8) *Publications.* The Committee on Publications shall consist of nine members elected by the House of Delegates. The committee shall arrange for the publication and distribution and have charge of the Society's official journal. Expenses of the committee must be authorized by the Council, and subsequently reported to the House of Delegates. All receipts shall accrue to the Treasurer.

10.1(9) *Standards and Credentials.* The Committee on Standards and Credentials shall consist of nine members elected by the House of Delegates. The committee shall determine standards for course content to satisfy the continuing medical education requirements for registration of medical licenses in Rhode Island. In special cases, the committee shall evaluate an individual physician's course of study to determine if the requirements have been met.

10.1(10) *Caleb Fiske Fund.* The President, President-Elect, and Vice President shall be the Trustees of the Caleb Fiske Fund.

10.1(11) *Other Special Funds.* The President, Secretary, and Treasurer shall be the Trustees of such special funds as have been created and may be created hereafter, provided other trustees are not designated by the creators of the fund or appointed by the House of Delegates.

10.2 *Vacancies.* If an elected or appointed committee member dies, resigns, is removed, or fails to serve, the Council shall appoint a member of the Society to serve for the unexpired portion of the term.

10.3 *Required Reports.* Each committee shall report annually to the House of Delegates, preferably in writing, concerning its activities. The Trustees of the Caleb Fiske Fund and Trustees of Special Funds shall report to the Council.

ARTICLE 11. DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION

11.1 *Selection and Terms.* The House of Delegates at its annual meeting in the even year shall elect a Delegate and Alternate Delegate to the House of Delegates of the American Medical Association, in conformity with the applicable provisions of the Constitution and Bylaws of the American Medical Association.

11.2 *Assumption of Office.* The Delegate and Alternate Delegate shall assume office on January 1 of the year succeeding their election, for two-year terms, and shall serve until their successors are elected and assume office.

11.3 *Vacancies.* If before the termination of his or her term, the delegate dies, resigns, ceases to be a member in good standing of the Society, becomes disabled, or for any other reason cannot assume or continue the duties of office, or will be absent from a session or meeting of the House of Delegates of the American Medical Association, the alternate delegate shall assume the rights and duties of office for the time being or for the remainder of the term as appropriate, in the opinion of the Council.

ARTICLE 12. RULES OF ORDER

In the absence of any provision in these Bylaws to the contrary, all general meetings of the Society and all meetings of the House of Delegates, Council, and committees shall be governed by the parliamentary rules proposed by the Speaker of the House of Delegates and approved by the House of Delegates.

ARTICLE 13. ETHICS

The Principles of Medical Ethics of the American Medical Association and its subsequent amendments shall govern the conduct of the members of this Society in their relation to each other and to the public.

ARTICLE 14. OFFICIAL PUBLICATION

The official publication of this Society is the *Rhode Island Medical Journal*, which shall publish all official Society notices and transactions of the House of Delegates, general meetings of the Society, and abstracts of the meetings of the Council.

ARTICLE 15. AMENDMENTS

These Bylaws may be amended in any general meeting of the Society by a majority vote of the members present and voting, provided the proposed amendment has been presented to the House of Delegates and has received its approval by a two-thirds vote of the Delegates present and voting at the meeting at which the amendment is considered.

ARTICLE 16. REPEAL OF PREVIOUS BYLAWS AND MOTIONS

On adoption of these Bylaws, all previous Bylaws and motions of record and rules and regulations in conflict with these Bylaws are hereby repealed, provided that all officers, delegates, and elected committee members now in office shall continue their terms until their successors are duly elected as provided in these Bylaws.

This system classifies the approximately 1,600 commercially available diagnostic tests into two major categories, namely: MICROCHEM®, which records results of all biochemical and microbiology tests, and SIS®, which reports all medical subspecialty tests.

MICROCHEM® reports the results of 1,108 routine and less frequently-performed biochemical and microbiological tests done in the clinical laboratory. The principal design feature is its subdivision into five subcategories: basic hematology tests (18), urinalysis (1), basic chemistry tests (39), special chemistry tests (1,000), and microbiological tests (50). The 58 routine tests for basic hematology, urinalysis, and basic chemistry (the so-called "little ticket" tests) are those which are ordered most frequently and most often repeated. The special chemistry tests are accumulated in smaller numbers in terms of volume, but range from alpha-l-glycohemoglobin to serum zinc, and vary from the routine to the highly esoteric. The microbiological tests are the results of microscopic examinations and incubation of various body fluids and secretions, with identified pathogens tested for in-vitro antibiotic sensitivity.

A feasible option to the basic MICROCHEM® system is a decision-support ("expert") subsystem which could help the physician to interpret the special chemistry tests and guide in the selection of cost-effective antibiotics for patients with positive test results.

SIS®, the second major category, reports the results of the approximately 500 diagnostic tests carried out in ancillary testing areas other than the clinical laboratory. These tests reflect the structure and function of the major human organ systems. The SIS® system includes the following medical subspecialties: such imaging procedures as basic and special x-ray films, sonography, and computerized tomographic and isotope scans; cardiology; neurology; gastroenterology; pathology; pulmonary; endocrine/metabolic; allergy/immunology; urology; nephrology; and special senses, ie, eye and ear.

The Need for a Diagnostic Information System

The widespread excessive use of laboratory tests has been well documented.⁴ Diagnostic test use is increasing at a rapid rate and accounts for a large proportion of physician-directed medical costs. An estimated \$25 billion, or approximately 15 per cent of all health care costs, were generated by more than 10 billion tests in 1980. By 1982, this figure had climbed to \$47 billion. Leaders in clin-

ical practice, laboratory medicine, medical education, health care planning, and health services research have acknowledged that many of these tests may be medically inappropriate and do not contribute to the quality of patient care.

There is also substantial evidence to support the following conclusions. First, many tests can be safely eliminated without reducing the quality of patient care. Second, test ordering patterns among physicians can be substantially changed, particularly among resident physicians in training. Third, even a small change in the test ordering patterns of physicians affects costs significantly. Fourth, while many costs of health care result from factors outside the direct control of individual physicians, the one circumstance in which they can and should make a difference is in the use of diagnostic tests.

According to a widely-publicized study from the Robert Wood Johnson Foundation, such large, highly-visible technologies as the CT scanner, are responsible for less of the annual increase in medical costs than the cumulative expenses of thousands of small tests. These small tests individually cost comparatively little, but physicians order them in greater numbers. Few patients have a CT scan during their lifetimes, but many people have numerous complete blood counts. Yearly expenditures for clinical laboratory tests are much higher than for hospital capital expenses and equipment costs. The study also suggests that efforts to regulate laboratory costs have been ineffective, primarily because they concentrate on major technological innovations. It concludes that "the real cost savings will require continuous restraint on the use of all available technologies used to solve the myriad of simple and complex clinical problems encountered in many years of practice."⁵

It will become particularly essential that physicians scrutinize their use of ancillary tests under the diagnosis-related group (DRG) based reimbursement system for hospitalized Medicare patients. The DRG-based system was implemented for hospital reimbursement on October 1, 1983. The Department of Health and Human Services (DHHS), however, is also required to develop recommendations as to whether physicians should be reimbursed under a prospective payment system for services provided to Medicare patients.⁶ Under such a "cost-per-case" system, it will be essential that physicians reduce medically inappropriate use of both the common "little ticket" tests and esoteric studies which accumulate by the millions in community and university-affil-

iated hospitals (Table 2). The DIS will help physicians to accomplish this goal and to use their time more efficiently, one of the keys to physician profitability.

The DIS and Improved Patient Care

By indexing all test results for each patient in a standardized format, the DIS improves the accessibility and readability of results for both physicians and support staff involved with patient management. It allows the physician to analyze and rapidly integrate large volumes of test result data with other information about the patient because the "indexing technique" corresponds to specific organ systems and the medical specialties.

Moreover, the DIS will facilitate accurate patient care decisions by eliminating extraneous data and increasing the clinical relevancy of the information presented. In a mock demonstration, the DIS reduced the volume of data from 200 to 800 per cent without sacrificing either accessibility or readability. While the results from special chemistry tests are used less often, experience has shown that both residents and practicing physicians encounter problems with their interpretation. Interpretative aids for abnormal results in this category, included as footnotes, do not obscure the results themselves and provide a substantial educational benefit. Development of another optional feature, a system to guide physicians in the selection of cost-effective antibiotics, may receive even higher priority from hospitals, particularly in view of the new federal reimbursement regulations.

The DIS in the Hospital Setting

From the perspective of hospitals, the DIS will provide demonstrable benefits. The system will help attract quality staff and provide a competitive edge, particularly in smaller hospitals which cannot yet support an automated system. It will increase the productivity of staff physicians, nurses, ward clerks, and ancillary service area technicians. More accurate and rapid diagnostic and therapeutic decisions will contribute to lower average lengths of stay. Fewer medically unnecessary tests will be performed with lower total hospital operating costs as a result. It will reduce those malpractice claims which are related to difficulties in diagnosing and treating patients with numerous diagnostic test results. The DIS also can help physicians to integrate the estimated 20 million medical facts currently in use and help reverse the rapidly increasing rate of iatrogenic events.⁷

Other direct benefits to hospitals and physicians include: more effective utilization review, discharge planning, and audits of physician performance; lower record room storage costs; and potential diagnostic and therapeutic decision support for residents and practicing physicians.⁸ The system also will make it easier for consultants to review diagnostic test results and facilitate the dictation of accurate discharge summaries for all physicians.

More than ever, hospitals and physicians must manage their time and information as efficiently as possible. The new prospective payment system is intended to reward efficiency and penalize those hospitals with high costs. This will result in

Table 2. Intensity of Diagnostic Tests in Selected Rhode Island Hospitals⁹

Hospitals	Beds	Years	Estimated Total Number of Diagnostic Tests	Total Admissions	Total Patient Days	Tests/ Admission	Tests/ Patient Day	Average Length of Stay
Kent County Hospital	252	61-62	153,354	11,117	64,418	13.8	2.4	5.8
		77-78	1,091,830	13,884	114,842	78.6	9.5	8.3
		80-81	1,228,950	15,960	121,696	77	10	7.6
Rhode Island Hospital	359	81-82	1,360,391	16,059	128,997	84.7	10.6	8
		78-79	2,477,379	23,096	228,650	107	10.8	9.9
		79-80	2,536,523	23,229	234,613	109	10.8	10.1
		80-81	2,552,688	23,027	239,480	111	10.7	10.4
	709	81-82	2,440,664	23,029	237,199	106	10.3	10.3
Roger Williams General Hospital	248	80-81	1,027,641	8,419	73,135	122	14	8.7
Westerly Hospital	141	80-81	270,987	6,557	41,019	41.3	6.6	6.3
Total US	956,284 ¹¹	76-77	5 billion ¹⁰	34 million ¹¹	260.7 million ¹¹	147	19.2	7.7

more discriminate use of ancillary services and more effective discharge planning and utilization review. The DIS should facilitate these activities and stimulate efforts to reduce operating costs without sacrificing the quality of care. Because Medicare payments for hospitalized patients will be based on predetermined levels rather than actual costs, hospitals will be forced to become more efficient to survive economically.

The Diagnostic Information System should

References

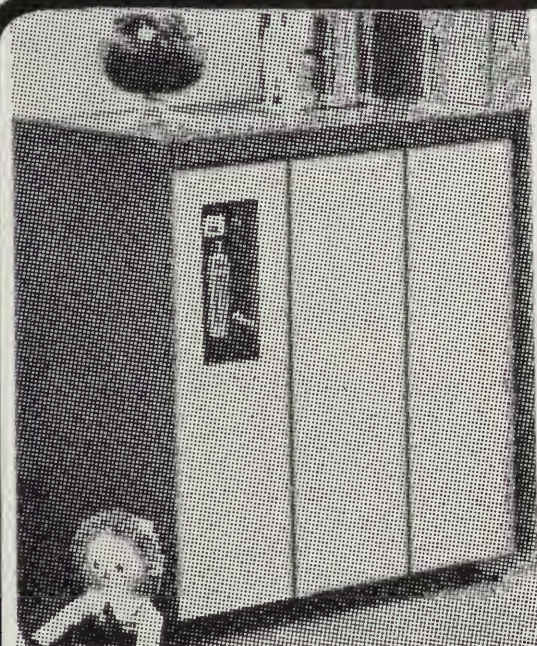
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help hospitals manage their resources more effectively, and simplify the task of relating all costs back to the point where they start, ie, with the diagnostic and therapeutic decisions of physicians. Since the DIS will help identify the use of medically unnecessary ancillary services, its use in a computerized hospital information system should have an immediate and direct economic value for the hospital, and result in improved patient care.

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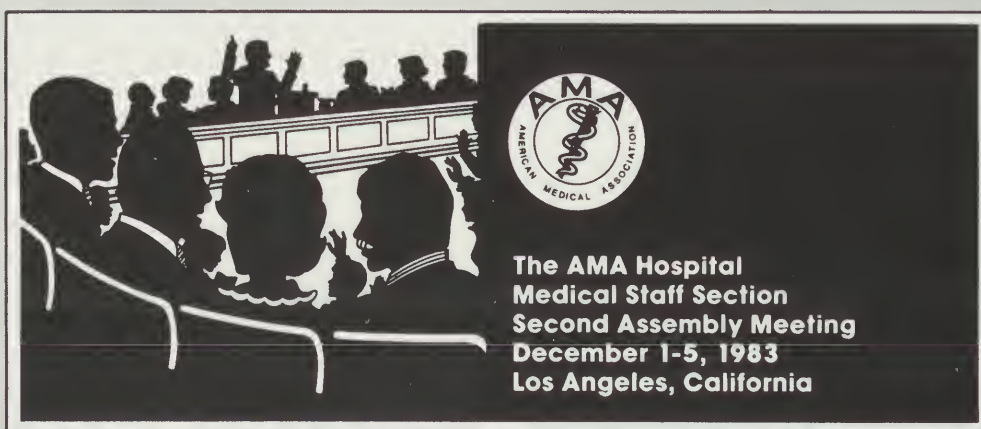
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Case Report: Rhode Island Hospital

Maurice M. Albala, MD
Thomas Wachtel, MD
George Meissner, MD
David Williams, MD, Editors

Presentation of Case

A 62-year-old white man with diabetes was admitted because of severe weakness and persistent cough.

Three months prior to admission, the patient had been hospitalized for evaluation of progressive lower extremity weakness of four years' duration. He had a history of adult onset diabetes mellitus with retinopathy. At that time, his hemoglobin was 12.1 g per cent, white blood count (WBC) 7,600, Westergren sedimentation rate 23, and calcium 10.2 mg per cent. Bone marrow aspirate and biopsy were normal and demonstrated adequate iron stores. Rheumatoid factor and antinuclear antibody were negative. His weakness did not improve upon testing with Tensilon®. A barium enema, upper gastrointestinal (GI) series, and intravenous pyelogram were normal except for the suggestion of splenomegaly. Polyneuropathy involving all the extremities was diagnosed by nerve conduction studies. A right deltoid muscle biopsy showed chronic denervation atrophy with type I preponderance and small atrophy with fiber hypertrophy. The patient was discharged on tight control of his diabetes.

Three weeks prior to admission, the patient noted the onset of a cough productive of white sputum. The cough was unaccompanied by fever. Because his condition did not improve after two weeks of erythromycin therapy, he was admitted to the hospital.

There was no past history of tuberculosis, rheumatic fever, jaundice, hypertension, or myocardial infarction. His family history included one sister with multiple sclerosis. He was receiving 30 units of neutral protamine hegedorn insulin, and 20 mg of furosemide daily.

On physical examination, the patient appeared obese, weak, and with an ineffective cough. Blood pressure was 110/60, respirations 14, and rectal

temperature 98.6 F (37.0 C). The first and second heart sounds were normal and unaccompanied by murmurs, gallops, or rubs. Rales were heard posteriorly on the left. His abdomen was soft, with normal bowel sounds, and without tenderness, masses, or enlargement of the liver or spleen. The rectal examination was normal. Both lower extremities had 2+ pitting edema to the calves. There was moderate proximal muscle weakness of all four extremities with diminished sensation to pain and touch of the distal lower extremities. His ankle reflexes were absent.

Hemoglobin was 11.4 g per cent, WBC 7,500 (64 neutrophils, 20 lymphocytes, 12 monocytes, and 4 eosinophils), glucose 128 mg per cent, sodium 142 mEq/L, potassium 4.6 mEq/L, chloride 106 mEq/L, bicarbonate 26 mEq/L, blood urea nitrogen (BUN) 37 mg, creatinine 1.0 mg per cent, prothrombin activity 81 per cent, urinalysis normal, Westergren sedimentation rate 15, SGOT 26 IU/L, LDH 375 IU/L, CPK 20 IU/L, alkaline phosphatase 19.9 IU/L, bilirubin .5 mg per cent, phosphorus 4.3 mg per cent, magnesium 1.7 mEq/L, T₄ 7.9 mg per cent, and T₃ uptake 29 per cent. Sputum for acid fast bacillus was negative. The electrocardiogram (ECG) showed borderline low voltage with non-specific repolarization changes. A chest x-ray film demonstrated haziness along the left heart border, with a question of mediastinal widening. A lumbar puncture revealed clear fluid, a protein of 56 mg per cent, glucose 71 mg per cent, serum glucose 115 mg per cent, 7 red blood cells, 1 white blood cell, and negative cytology, cultures, cryptococcal antigen, VDRL, and counterimmune electrophoresis.

The patient received Bronkosol® and chest physiotherapy. By the seventh hospital day, both lung fields were clear on chest x-ray examination.

Following intravenous hydration, serum cal-

cium was 10.7 mg per cent. Indomethacin and Neutro-Phos® were administered. His calcium remained in the 10.0-11.4 mg per cent range. Parathormone was 88 (normal 40-100) with simultaneous calcium of 11.3 (normal 8.8-10.4); repeat determinations were 67 and 11.5, respectively. Fractionation of alkaline phosphatase demonstrated elevation of the liver component. Immunoelectrophoresis showed IgG 297 mg per cent (564-1765), IgA 130 mg per cent (85-385), and IgM 25 mg per cent (53-375). There was no monoclonal spike. Urine demonstrated no kappa or lambda chains. A bone scan was normal, and a metastatic x-ray series revealed no lytic lesions.

Despite two weeks of physical therapy, the patient remained weak. He became depressed and lethargic. An electroencephalogram (EEG) demonstrated slowing bilaterally. On the twentieth hospital day, hemoglobin was 8.1 mg per cent. His stools were negative for occult blood.

On the twenty-fifth hospital day, the patient was noted to have profound lethargy. Over twelve hours, his blood pressure declined from 96/60 to 70/52. A chest x-ray film demonstrated pulmonary congestion. Despite support with ventilation, pressors, steroids, and antibiotics, the patient died within several hours.

Differential Diagnosis

Steven A. Wartman, MD*: The key features of this case are muscle weakness, hypercalcemia, and an abnormal chest x-ray examination with question of a mediastinal mass.

The discussion can be organized by considering each of these features individually.

First, the muscle weakness: We are told that the patient has had progressive lower extremity weakness over a four-year period. Table 1 shows some of the conditions associated with generalized muscle weakness. Furthermore, we are told that the patient had polyneuropathy involving all the extremities as demonstrated by nerve conduction studies. In addition, a right deltoid muscle biopsy revealed chronic denervation atrophy with type I preponderance and small atrophy with fiber hypertrophy.

In other words, the muscle biopsy showed chronic, long-standing neuropathic changes which support the diagnosis of polyneuropathy and seem to rule out primary muscle disease, such as polymyositis and the muscular dys-

trophies. This is further supported by the normal CPK and SGOT values. While we are told that a sister suffers from multiple sclerosis (MS), and although MS is approximately eight times more common in immediate relatives, there is little to support the diagnosis here. Multiple sclerosis tends to be an episodic focal disorder, presenting with visual problems, nystagmus, dysarthria, tremor, ataxia, and weakness of a limb.

The pattern of progressive proximal muscular weakness is fairly non-specific and can suggest a

Table 1. Generalized Muscle Weakness

Muscular dystrophies
Polymyositis
Endocrine/metabolic disorders
Thyroid dysfunction
Adrenal dysfunction
Calcium disorders
Diabetes
Uremia
Drug-induced (eg, alcohol)
Infectious polyneuropathies
Myasthenia Gravis
Periodic paralysis
Polyarteritis
Carcinopathy (eg, Eaton-Lambert syndrome)
Cord compression

wide variety of disorders. We have no information concerning the use of alcohol, certain drugs, or an infectious or post-infectious etiology that may simulate this pattern of muscle weakness. According to the available data, the patient had reasonable kidney function, making the uremic cause unlikely.

We are told, however, that the patient is an insulin-dependent diabetic manifesting retinopathy. About 50 per cent of diabetic patients have some peripheral nerve involvement. This is demonstrated as a slowing of conduction times with a proximal-distal gradient of dysfunction, the so-called stocking-glove distribution. This is predominantly a sensory lesion, but also may affect motor function. However, it is generally distal as opposed to the proximal muscle weakness in this patient. The peripheral polyneuropathy of diabetes tends to be bilateral and present with numbness, parasthesias, and pain, none of which were apparently experienced by this patient. The syndrome of diabetic amyotrophy, however, generally presents as proximal muscle weakness and wasting, but also with pain in the thighs. While the patient undoubtedly has a polyneuropathy from diabetes, as expressed by

*Director, Division of General Internal Medicine, Rhode Island Hospital; Associate Professor of Medicine, Brown University Program in Medicine.

nerve-conduction studies and absent ankle-jerk reflexes, as well as an elevated cerebrospinal fluid (CSF) protein, there is little reason to suspect that this is the immediate cause of his severe proximal muscle weakness.

The syndromes of periodic paralysis generally present in a much more episodic and fragmented nature. Patients are generally normal except during well-demarcated episodes in which intense weakness or complete paralysis of limb and trunk muscles develop. These syndromes do not appear to be likely here.

There are, therefore, three possibilities remaining in this patient: endocrine disease, such as thyroid disease; myasthenia gravis; and muscle carcinopathy, of which the Eaton-Lambert Syndrome is a prime example.

I shall return to these three diagnoses later and move on to the next key feature of the case, hypercalcemia. Some of the major causes of hypercalcemia are presented in Table 2. Of those listed, we can immediately rule out vitamin D intoxication; vitamin A toxicity; milk-alkali syndrome; immobilization, especially with Paget's

Table 2. Hypercalcemia

Primary hyperparathyroidism
Malignancy
Sarcoid
Multiple myeloma
Vitamin D intoxication
Vitamin A toxicity
Milk-alkali syndrome
Thyrotoxicosis
Adrenal insufficiency
Immobilization (especially with Paget's disease)
Thiazide diuretics
Renal disease
Fungal and mycobacterial infections

disease; diuretics, particularly thiazides; and renal disease. While hypercalcemia has occasionally been described in certain fungal and mycobacterial infections, there is little reason to suspect that this is the case with this patient. The patient had been consistently afebrile, had negative sputa for AFB, and his chest x-ray film, while abnormal with infiltrates, mediastinal widening, and congestion, did not follow a typical pattern for any of the fungal or mycobacterial diseases, and the laboratory values, such as the white blood count, were not consistent with this syndrome. The hypercalcemia seen in adrenal insufficiency is generally similar to that of acute adrenal failure, for which the evidence here is rather scanty.

Similarly, the evidence for sarcoidosis also is lacking. The possibility of sarcoid becomes increasingly remote because of the lack of fever, involvement of the skin and eyes, the absence of clear sarcoidosis on chest x-ray studies (a diffuse fibronodular infiltrate, hilar adenopathy, or both, generally are present in 90 per cent of severe cases), and the lack of other typical components of this disease, such as elevated blood immunoglobulins.

This leaves us with three major categories: primary hyperparathyroidism; malignant disease; and endocrine disorders, particularly thyrotoxicosis.

The hypercalcemia associated with the patient's disease undoubtedly explains many of the symptoms. Lethargy, muscle weakness, and a diffuse slowing in the EEG all are consistent with hypercalcemia. Even the muscle biopsy showing neuropathic atrophy has been reported with hypercalcemia, such as in primary hyperthyroidism.

I do not think this patient has hypercalcemia on the basis of primary hyperparathyroidism. The patient does not present with the classic pattern of elevated calcium and lower serum phosphorus. In fact, we are told that the phosphorus in this patient is 4.3 mg per cent, which is slightly elevated. Furthermore, in a review of large groups of patients with primary hyperparathyroidism, nearly two-thirds had one or more of the accepted concomitants of this disease, such as urolithiasis, osteoporosis, decreased renal function, evidence of bone disease, peptic ulcer, and pancreatitis.¹ In addition, based on surveys of large groups of patients with hyperparathyroidism, it is reported that nearly half of these patients have associated hypertension, for reasons which seem to be unclear.¹ This patient, however, did not have hypertension. While I could not see the distal clavicles on the chest films provided, sub-periosteal resorption was not reported. An anemia and elevated sedimentation rate are said to be relatively uncommon in primary hyperparathyroidism. In addition, these patients may be mildly acidotic with a chloride-to-phosphorus ratio greater than 33. In this patient, the ratio was considerably less (24.6).

The fact that the patient has some detectable parathormone (PTH) while hypercalcemic does not necessarily reflect primary hyperparathyroidism, but might indicate ectopic production of parathormone from a malignant process. It is important to point out that measurements by immunoassay of PTH provide only the crudest

overall index of parathyroid activity, since inert fragments are included or excluded in many assays.

The differential diagnosis between primary hyperparathyroidism and hypercalcemia secondary to malignant tumors may be difficult. Reviews of numerous cases, however, have indicated that patients with primary hyperparathyroidism tended to have consistently elevated PTH above the accepted normal ranges. Patients with hypercalcemia secondary to malignant disease tended to have detectable PTH in the more normal range, as in this case.^{2, 3}

We can safely rule out bone metastases as a cause. Paraneoplastic hypercalcemia is caused by increased bone resorption through four mechanisms. The production of ectopic PTH-like sub-



Fig 1: Chest x-ray film obtained 4 years prior to admission showing normal mediastinal structures

stances by tumors has been documented for some time; however, other calcium mobilizing factors produced by neoplasms may also lead to hypercalcemia. One such agent is prostaglandin-E₂. Osteoclastic activation factor is a low-molecular-weight polypeptide that induces osteoclastic bone resorption and appears to be the major cause of hypercalcemia in patients with multiple myeloma, Burkitt's lymphoma, and other lymphoid types of tumors. Finally, a sterol which mimics Vitamin D has been reported to cause hypercalcemia in some patients with breast cancer.

We have already ruled out GI tumors because of the normal GI work-up, and myeloma because of normal electrophoreses and bone x-ray film series. We must, therefore, suspect, if this is the underlying etiology of the hypercalcemia, tumors of the lung, kidney, breast, thyroid, or epidermoid type tumors, hepatoma, pancreatic

tumors, and lymphomas. This conveniently brings us to the discussion of the third key feature of this case, the abnormal chest x-ray films with a question of mediastinal widening.

When I looked at the x-ray films, I concentrated particularly on two of the four films provided: films taken at four years and three months prior to the final admission. I have not seen any lateral films. The film taken at three months prior to admission suggests a widened mediastinum which was not present four years previously.

One may not, of course, definitively answer the question of a mediastinal mass or localize the mass without an appropriate lateral film. Anterior superior mediastinal masses, for example, may be apparent only on lateral view, since they may be obscured by the sternum, great vessels, and heart shadow on the posterior-anterior film. I am, therefore, unable to say with any degree of certainty whether in fact a mediastinal mass exists. However, I very strongly suspect it from my reading of the x-ray films.



Fig 2: Chest x-ray film obtained three months prior to admission showing a widening of the middle mediastinal structures

In several reviews of mediastinal tumors in large groups of patients, 40 to 45 per cent are reported as malignant.^{4, 5} Nearly two-thirds of all masses are symptomatic, usually with respiratory complaints such as wheezing, dyspnea, cough, and occasionally dysphagia.

Anterior mediastinal masses, eg, masses anterior to the trachea, account for some 55 to 65 per cent of mediastinal tumors. Thymomas are the most common anterior mediastinal tumors, accounting for 30 to 45 per cent of all the anterior

mediastinal masses and in some series as many as 17 per cent of all mediastinal tumors. This is followed by teratomas (10-20 per cent), thyroid (10-20 per cent), and lymphomas and lymph node enlargements (10-35 per cent). Since thymomas are the most common anterior mediastinal tumors, it is appropriate to review them in more detail and see if there is any link between thymoma and the course of this patient.

Approximately 25 per cent of thymomas are malignant in the sense of their being locally invasive; myasthenia gravis is associated with such tumors in 15 to 50 per cent of these cases. A phenomenon known as red cell aplasia is associated with myasthenia gravis in two to five per cent of cases; hypogammaglobulinemia is reported with thymoma, as well as with Cushing's syndrome. The presenting symptoms of thymoma are dyspnea, cough, chest pain, and myasthenia gravis. The patient clearly had symptoms of cough and some kind of muscle weakness. Myasthenia gravis has not as yet been excluded. While myasthenia gravis will be discussed in order to make a case for thymoma, the patient's hypercalcemia also must be explained.

There are four histologic types of thymoma: epidermoid, which tends to be invasive; lymphoepithelial; lymphocytic; and so-called spindle cell. It should be noted that the syndrome of hypercalcemia and ectopic PTH secretion has been described in a wide variety of tumors, for which this would qualify. In addition, histochemical links between tumors of the lung and mediastinum have been demonstrated and may possibly develop from the so-called argyrophil cells in the thymus. Thus, it is readily conceivable that the hypercalcemia is the result of ectopic PTH secretion by an epidermoid type of thymoma. Before proceeding to the other causes of anterior mediastinal masses and their possible links with this patient, I shall digress to discuss the syndrome of myasthenia gravis. Did this patient in fact have myasthenia gravis and did this account for his profound muscle weakness?

Myasthenia gravis has been linked with a variety of disorders, including thymomas, especially in the elderly and with thyroid disease, diabetes, and rheumatoid arthritis. It tends to occur in younger females and older males. Fatalities from the disease are generally respiratory, occurring either in the first year of the diagnosis or from the fourth to the seventh year of the disease, as occurred in this patient. About one-third of patients with myasthenia gravis present with ocular symptoms only, another third with ocular and other

symptoms, 20 per cent with difficulty chewing and swallowing, and 15 per cent with extreme weakness without ocular symptoms. This patient would obviously fit in the latter group. The basic defect of myasthenia gravis is felt to be a reduction of available acetylcholine receptors at the neuromuscular junction due to autoimmune attack. In fact, up to 90 per cent of myasthenic patients have many types of antibodies in their serum, including anti-nuclear, anti-endplate, and anti-muscle antibodies.

The electromyographic (EMG) pattern is a characteristic feature of myasthenia gravis, showing signs of neuromuscular fatigue, the so-called decremental response of the EMG found in 95 per cent of patients if three or more muscles are tested. In response to low-frequency stimulation, a progressive decrement in response is noted. This is somewhat opposite to the effects observed in muscle carcinopathy, which will be discussed later.

A discussion of myasthenia gravis could be moot since the patient has had a negative Tensilon® test. However, a review of the medical literature and discussions with several neurologists reveal that it is possible to have a negative Tensilon® test in a patient with myasthenia.^{6, 7}

We lack information about the nature of the Tensilon® test that was conducted on this patient. Was it done correctly? Should a longer acting drug have been used? Should repeated testing have been done? What about the subjective nature of the test itself? The voluntary muscle performance of the patient depends not only on the potential maximal force of the muscles tested, but also on the degree of effort contributed by the patient. The use of longer-acting agents, such as neostigmine, as opposed to Tensilon®, might facilitate evaluation of the patient's response. Therefore, a single negative Tensilon® test does not definitely rule out the diagnosis of myasthenia in this patient. In addition, the patient's terminal course and respiratory death could well be explained by myasthenia gravis.

The next most common mediastinal mass in the anterior mediastinum is teratoma. After a review of the literature, I am not able to link teratoma with the symptom complex of this patient.

Other categories, however, prove more interesting. Thyroid enlargement, with or without carcinoma, accounts for 10 to 20 per cent of anterior mediastinal masses. There is no question that thyrotoxicosis can explain some of this patient's problems, including the muscle weakness,

hypercalcemia, mediastinal mass, negative Tensilon® test, and muscle biopsy.

An incidence of muscle weakness of greater than 80 per cent, usually proximal, is described in thyrotoxicosis, frequently occurring as much as six months before the diagnosis is made. About one per cent of patients with thyrotoxicosis have myasthenia gravis, and as many as five per cent of patients with myasthenia gravis have associated hyperthyroidism.

However, we are told that the patient's T₃ and T₄ uptake were normal. We would have to postulate an isolated T₃ toxicosis in this case. This entity is found more frequently in patients with an autonomous nodule or residual tissue post-surgery or post-radioactive iodine therapy. T₃ toxicosis remains an intriguing possibility in this case, but one which cannot be definitely ruled in or out without a measurement of T₃.

Finally, we come to the least common group of anterior mediastinal masses, which includes lymph node enlargement as a result of metastatic disease and lymphomas. An association between these disorders and hypercalcemia is well recognized. In addition, syndromes of muscle carcinopathy have been associated with a wide variety of tumors, either primary or in the mediastinum. The Eaton-Lambert syndrome classically has been associated with small-cell carcinoma of the lung, presenting as muscle weakness, especially in the pelvic, thigh, and shoulder regions. Aching and stiffness may be a prominent feature of this disorder. None of these were reported in this patient. As was true in the patient, the ocular and bulbar musculature may appear to be spared and neostigmine or Tensilon® has no effect, while guanidine, a drug which presumably enhances the release of acetylcholine from terminal nerve fibers, and is used in the treatment of botulism, may have a favorable effect. The syndrome, as described in the literature, may precede the appearance of malignant tumors by two or more years.

In this case, the EMG shows an incremental effect, rather than the decremental effect seen in myasthenia. Repetitive stimulation will increase the action potential amplitude in muscle carcinopathy. It must, therefore, remain a prominent possibility in this case.

I have suggested three possibilities leading to the death of this patient. These are thymoma with myasthenia gravis; T₃ thyrotoxicosis, with or without an associated myasthenic syndrome; and

malignant disease involving the mediastinum, associated with muscle carcinopathy.

I conclude that the patient had a malignant lesion in the mediastinum, most likely lymphoma, hepatoma, or possibly with an occult lung, pancreatic, or renal tumor; that the muscle weakness was secondary to both muscle carcinopathy and hypercalcemia; that the hypercalcemia was secondary to ectopic PTH and possibly other types of tumor-producing substances; that the patient suffered from diabetes and diabetic polyneuropathy; and that the patient died in cardiorespiratory failure.

Clinical Diagnosis:

- Mediastinal lymphoma
- Neoplastic neuromyopathy
- Aspiration pneumonitis

Doctor Steven A. Wartman's Diagnosis:

- Probable mediastinal lymphoma; rule out hepatoma or other malignant tumor, eg, pulmonary, pancreatic, or renal
- Muscle carcinopathy
- Hypercalcemia secondary to ectopic PTH or other type of tumor-producing substances
- Diabetes with associated diabetic polyneuropathy

Pathological Discussion

Enold H. Dahlquist, Jr., MD*: The autopsy revealed a lymphoma involving para-aortic, hilar, peripancreatic, mesenteric, celiac, and axillary lymph nodes. One hilar node measured 10 cm in diameter, but most were smaller and all were fleshy, tan-white, slightly soft, and bulging. The spleen was lymphomatous, approximately six times larger than normal, and weighed 865 grams. Bone marrow was largely replaced by lymphoma.

The liver was fatty and slightly enlarged, and the pancreas revealed moderate fatty replacement.

Lungs were quite heavy and edematous, and microscopically showed organizing aspiration pneumonitis of a long-standing nature with resultant severe fibrosis. Adrenals, thyroid, and parathyroids were normal.

There was an incidental well-differentiated adenocarcinoma of the rectosigmoid under 4 cm in diameter, which extended only superficially into the muscularis, with no evidence of metastasis (Duke's A).

The lymphoma is classified as Hodgkin's disease of lymphocyte-depletion type. Histological-

*Associate Pathologist, Rhode Island Hospital.

ly, lymph nodes revealed an obliteration of nodal architecture, with a fibrotic background without necrosis, few lymphocytes, rare plasma cells, and mostly neoplastic mononuclear cells; atypical giant cells and Reed-Sternberg cells were present (Fig 3).

The underlying cause of death is felt to be clinically undetected Hodgkin's disease, first manifesting as a neoplastic neuromyopathy four years ago. Muscle weakness probably was responsible for the episodes of pulmonary aspiration, pneumonitis, and resultant pulmonary fibrosis.

Pure cultures of *E coli* were obtained from pleural and ascitic fluid, and from postmortem blood culture, and the terminal event may well have been septic shock. Because of lymphoma-

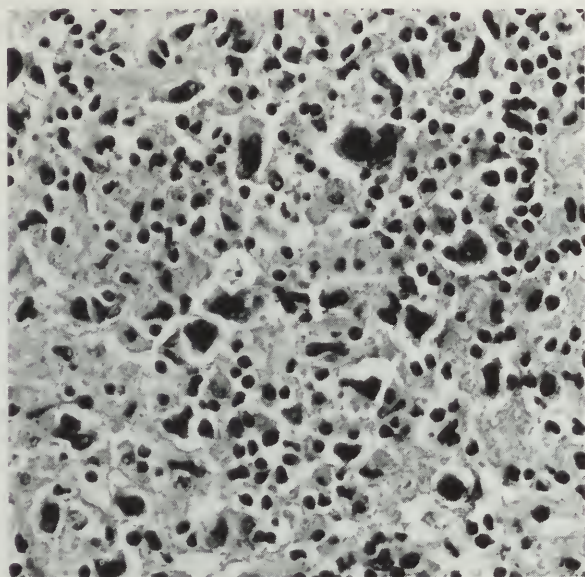


Fig 3: Lymph node — depleted lymphocytes, fibrosis, neoplastic mononuclear, and atypical giant cells X400

tous marrow replacement, very few polymorphonuclear leukocytes were present in any areas of infection, indicating little or no capacity to fight infection.

Lymphocyte-depletion Hodgkin's disease was originally described by Lukes in the early 1970s as a unique, highly-malignant entity with a very short life expectancy. In 1978, however, Rappaport, assessing a much larger series of cases, refuted Lukes's opinion, describing this lymphoma as frequently occult and clinically undetected with a duration as long as four to five years and, therefore, neither rapidly aggressive nor highly malignant. Further, he feels that this is an end-stage Hodgkin's granuloma and can be success-

fully treated, if detected, with appropriate radiation and chemotherapy. Five-year survivals occur in 25 per cent of cases.

Neoplastic or carcinomatous neuromyopathy has been described since 1888, defining a syndrome of neuromuscular complications secondary to neoplasm, without direct metastatic muscular involvement. Various etiologic factors are suspected, including toxic, viral, immunologic, and metabolic ones. It is important to emphasize that these symptoms are unrelated to tumor size or to the duration of tumor, but may appear as muscle symptoms *very* early after the evolution of the tumor.

Our conclusions, therefore, are similar to those of Doctor Wartman's — malignant lymphoma, Hodgkin's lymphocyte-depletion type, involving lymph node, bone marrow and spleen, most probably present for four years, with associated neoplastic neuromyopathy of similar duration. Parenthetically, diabetic neuromyopathy was considered clinically and pathologically, but it is not common in a controlled diabetic patient and is not progressive as it was in this case. Pulmonary aspiration with secondary pneumonitis and fibrosis are due to neuromuscular disorders also. The terminal event may well have been septic shock related to *E coli*.

Diabetes and the small adenocarcinoma of the recto-sigmoid were incidental.

Anatomic Diagnosis

Hodgkin's disease, lymphocyte-depletion type
Secondary neoplastic neuromyopathy
Secondary aspiration pneumonitis, organizing
and old

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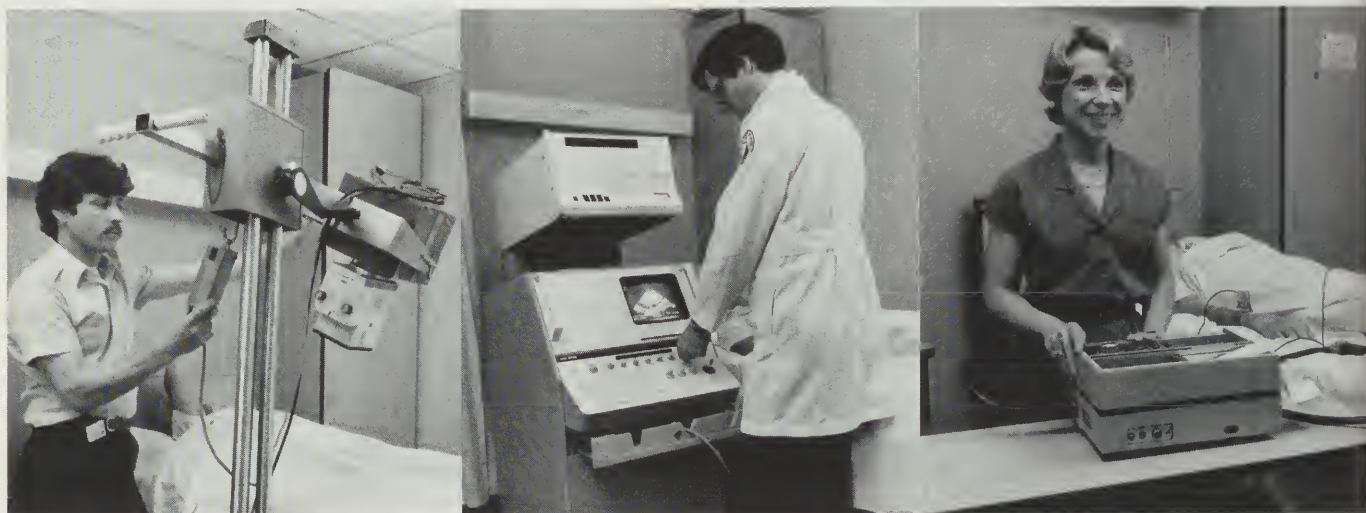
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Differences in Hospital Use by Residence: The Rhode Island Experience in 1980

*Study Reveals Marked Differences in Utilization Which Call
for Further Examination*

Donald C. Williams
Bruce C. Kelley, PhD

In this paper we describe and discuss differences in the use of several categories of hospital services throughout Rhode Island and suggest appropriate areas for further inquiry.

The data present use rates, adjusted for age and sex, for certain categories and types of hospital services by the residents of the 39 cities and towns in Rhode Island. These include total hospital days, pediatric hospital days, and seven common surgical procedures: tonsillectomy, lens extraction, hysterectomy, hernia repair, prostatectomy, cholecystectomy, and disc excision. By adjusting for differences in age and sex composition in each city or town, we eliminated the known effects of a population's age and sex composition as a possible explanation of observed variations in the use of hospital services. An adjustment also was made for Rhode Island residents who were hospitalized out-of-state.

Methods

The source of data on per capita use of hospital services in the 14 acute care community hospitals in Rhode Island was the uniform discharge abstract prepared by hospitals for the Professional

Activity Study (PAS) of the Commission on Professional and Hospital Activities (CPHA) of Ann Arbor, Michigan. All abstracts from these hospitals for Rhode Island residents with known age, sex, residence, and length of stay were included. Denominators for the use rates are taken from the 1980 United States Census. Using data from Massachusetts and Connecticut, these denominators were reduced to reflect out-of-state hospital use by the residents of each city and town.

The age classifications used to provide a comparison to the 1980 census data were 0-4, 5-14, 15-44, 45-64, 65-74, and 75 and older. The incidence rates for total hospital days, unilateral repair of hernia (hernia repair), intracapsular extraction of lens (lens extraction), cholecystectomy, and excision or destruction of intervertebral disc (disc excision) were based on the total population. The use rates for tonsillectomy with or without adenoidectomy (tonsillectomy) and pediatric hospital days were based on the population 0-14. The use rates for abdominal hysterectomy were based on the female population, aged 15 years and older. The use rates for transurethral prostatectomy (prostatectomy) were based on the male population, aged 15 years and older.*

Results

Total Hospital Days: While residents of the state in 1980 used an average of 1,095.9 days per 1,000 population, urban residents typically used much more hospital care. Six of the seven cities with the highest total hospital use rates had one or more community hospitals within their boundaries. The five areas with the highest use were: Woonsocket (1,443.9 days per 1,000 population, 31.8 per cent greater than the state average); Newport (1,390.9 days/1,000, 26.9 per cent greater); Central Falls (1,245 days/1,000, 13.6 per cent

* Additional information regarding the methodology and technical specifications is available from the Office of Health Planning, Rhode Island Department of Health, 75 Davis Street, Providence, Rhode Island 02908.

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greater); Providence (1,215.6 days/1,000, 10.9 per cent greater); and Westerly (1,199.3 days/1,000, 9.4 per cent greater).

In comparison, many of the suburban and rural areas in the state had markedly lower use rates. The utilization rates of the five municipalities showing a high rate of use were approximately 50 to 100 per cent greater than the hospital rates of the five cities and towns with the lowest utilization rates. None of the latter group had a community hospital within their boundaries.

The five towns with the lowest rates were: Barrington (722.9 days per 1,000 population, 34 per cent lower than the state average); Charlestown (737.9 days/1,000, 32.7 per cent lower); Gloucester (739.1 days/1,000, 32.6 per cent lower); New Shoreham (808.2 days/1,000, 26.3 per cent lower); and Narragansett (815.5 days/1,000, 25.6 per cent lower). The hospitalization use rate in Barrington was 50 per cent of the rate in Woonsocket, the highest utilization area in the state.

Pediatric Hospital Days: Pediatric hospital days show similar, but more pronounced, patterns of differential use. While Tiverton had the highest pediatric hospital day use rate (665.4 days/1,000), this figure may be unreliable because many of the town's residents rely on Fall River (Massachusetts) hospitals. Despite this anomaly, urban areas tend to exhibit higher hospital utilization rates and suburban and rural areas lower rates. Moreover, in a pattern similar to that observed for total hospital use, six of the ten municipalities with the highest pediatric use contained at least one hospital with a pediatrics unit.

The five areas with the highest use of pediatric hospital days were: Tiverton (665.4 days/1,000 population, 130.4 per cent greater than the statewide average); Providence (450.2 days/1,000, 55.9 per cent greater); Woonsocket (425.8/1,000, 47.4 per cent greater); Central Falls (399.9 days/1,000, 38.5 per cent greater); and Newport (395.4 days/1,000, 36.9 per cent greater).

Significantly lower utilization rates are also apparent for pediatric admissions. The use rates of the five cities and towns with the highest level of pediatric use were approximately 280 to 885 per cent of the five municipalities with the lowest levels. None of the latter group contained a hospital with a pediatrics unit. The five cities and towns with the lowest use rates were Gloucester (75.1 days/1,000 population, 74 per cent lower than the state average); Little Compton (90.3 days/1,000, 68.7 per cent lower); Foster (135.6 days/1,000, 53.1 per cent lower); Jamestown 137 days/1,000, 52.6 per cent lower); and North Prov-

idence (141 days/1,000, 51.2 per cent lower).

Selected Surgical Procedures: Even greater variations among the cities and towns of Rhode Island are evident for selected surgical procedures. More chance variation may occur with these procedures than with hospital days because fewer events were used in the calculations. Accordingly, more sophisticated analytical techniques were applied to indicate those areas where the variation from the state rate is statistically significant. As with the total hospital use and pediatric use, certain patterns are revealed. Some of the more significant ones are noted below.

Relatively high rates of tonsillectomy utilization are apparent in the Blackstone Valley-Woonsocket area. For example, Central Falls, Woonsocket, Pawtucket, and North Smithfield had the highest, second highest, fourth highest, and sixth highest rates, respectively, of tonsillectomy use in the state. Of these areas, only Central Falls does not have a hospital with a pediatrics unit. However, the proximity of Central Falls residents to the pediatrics unit in Pawtucket should be noted.

The incidence of abdominal hysterectomy utilization also shows some patterns of geographic consistency. For example, female residents of Scituate, West Warwick, Johnston, East Greenwich, and Coventry have the five highest use rates for this procedure. The female populations of Woonsocket and Central Falls have the sixth and seventh highest use rates.

The incidence rates for disc surgery show a rather remarkable concentration in Newport County. In fact, in descending rank, the municipalities of Tiverton, Little Compton, Portsmouth, Newport, Jamestown, and Middletown have the six highest rates of disc excision.

Discussion

This descriptive presentation of the rather substantial variations in the use of hospital services in Rhode Island cities and towns warrants further questions. These include:

After adjusting for out-of-state hospital use and for differences in age and sex, why do such wide variations occur in the use of hospital services? To what extent are the differences related to such demand factors as patient preferences, ability to pay, and insurance coverage; such supply variables as availability of hospitals and physicians; professional uncertainty (ie, lack of efficacy information); health status of the community; or random variations?

Are the high utilization rates in particular areas

linked with particular hospitals, physicians, or both?

What are the cost implications of the differences observed in hospital utilization? To what extent do residents of low use areas subsidize residents of high use areas?

What are the "quality implications" of the observed variations? Are high use areas over-

served? Are low use areas underserved? Are differential morbidity and mortality rates associated with utilization variations?

These questions and other related inquiries deserve the cooperative attention of all health professionals in Rhode Island, particularly as they may relate to improved surveillance of hospital utilization.

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International Hospital Products, Inc. recently introduced a new method for the identification of surgical specimens removed during surgery. The IHP Specident Pathologic Specimen Identification System® was developed by a surgeon to simplify the current method of tissue identification. Until now, sutures of different lengths were sewn into an organ or tissue, and then the corresponding lengths were noted on a separate paper. The new system includes 10 anatomic and 11 descriptive labels which are shaped for easy handling by a gloved surgeon. The labels, which consist of a printed plastic tag and metal clip, resist staining and may be placed for extended periods in formaldehyde.

The children of alcoholic parents may face a genetically determined increase in their risk for developing alcoholism, according to a paper in August 1983 issue of *Archives of General Psychiatry*. Researchers from the University of Southern California found differences in brain wave responses between control subjects and the bio-

logical sons of alcoholic fathers after a single low dose of alcohol. Their data suggest that these children may be especially sensitive to the effects of alcohol.

The Upjohn Company is seeking approval of the Food and Drug Administration (FDA) to make Nuprin® available without prescription. The product would be dispensed in a 200 mg tablet of the non-steroidal anti-inflammatory agent ibuprofen. Upjohn has marketed prescription products containing ibuprofen under the trade name Motrin® since 1974. At a recent hearing of the FDA Arthritis Advisory Committee, company officials cited clinical studies which show that Nuprin® is equal or superior in efficacy to 650 mg of aspirin for treating musculoskeletal pain, dysmenorrhea, post-surgical pain, post-extraction dental pain, and headaches.

Like male patients, many women recovering from myocardial infarctions (MI) believe that sex may result in pain, another MI, or even death during intercourse. Some 300,000 women survive MIs each year. According to a paper in the August 1983 issue of *Archives of Internal Medicine*, researchers at the University of Maryland found that the frequency of sexual relations remained unchanged in only 25 per cent of the 84 women who had been sexually active. Half of the group decreased their sexual activity and one-fourth did not resume at all after the MI. The paper further reports that few women discussed their concerns with a physician and even fewer physicians raised the topic of sexual activity.

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Transportation Expense Deductions

Rulings of the IRS Generally Are Based On Tax Court Decisions

Arnold J. Streich, JD

The Internal Revenue Service (IRS) permits you to deduct transportation expense for your business or profession even though you are not away from home. Transportation expenses include such items as air, train, bus, and cab fares, and the expenses of driving and maintaining your car. Costs of traveling between your home (residence) and usual place of business within the area of your tax home (principal place of work or employment) are nondeductible commuting expenses under Section 262 of the Internal Revenue Code. The *Tax Guide for Small Business*, published by the IRS (Publication 334), provides further information.

Physicians' Automobiles

Although physicians have frequently litigated the issue as to the deductibility of their automobile expenses, the basic principles were developed in suits brought by non-physicians. They then were applied across the board to all taxpayers, regardless of the type of work engaged in. The courts have generally supported the Internal Revenue Service in this regard. Also, the courts and the IRS are in agreement that physicians who use their personal automobiles in their practices cannot deduct all of their operating expenses.

The following discussion is intended to provide better understanding of frequently unpopular IRS and court decisions.

"Tax Home"

The principle that the "tax home" is a taxpayer's principal place of business was established by the United States Supreme Court in a 1946 decision

which held that transportation costs from such "home" to a taxpayer's residence are not deductible (*Commissioner v Flowers*, 326 US 465, 1946). The IRS generally defines a taxpayer's "tax home" for purposes of the deduction for reasonable travel and lodging expenses as his *principal* place of business, employment station, or post of duty, regardless of where he maintains his personal residence (IRS Private Letter Ruling No. 8121050, February 26, 1981).

Nature of a Taxpayer's Business or Profession

In the area of personal versus business transportation and travel expenses, no exceptions have been made on the basis of the nature of a taxpayer's business or profession. Nor is the "necessity" of transportation, or whether it involves long or short distances from a taxpayer's residence to his place of work, a decisive factor. When transportation expenses are incurred by a taxpayer in making daily round trips, requiring no sleep or rest between the taxpayer's residency and place of work, the travel expense deduction in Section 162a of the Internal Revenue Code is inapplicable (*US v Correll*, 389 US 299, 1967).

Distance Traveled

Deductibility of commuting costs as ordinary and necessary business expense is controlled by *US v Tauferner* (CA 10, 407F 2nd, 243, 1969, *cert. denied* 396 US 824, 1969), according to a decision by the Tenth Circuit Court in *G.D. Pilcher v Commissioner* (CA 10, 651F 2nd, 717, 1981), where a pipefitter employed on a construction project who had to travel from his residence in Salt Lake City to Great Salt Lake, a roundtrip of 67 miles, was held not entitled to deduct travel expenses to and from work.

Controlling Decisions

The decision of the Tenth Circuit Court in *Tauferner* and of the US Supreme Court in *Correll*

Arnold J. Streich, JD, at the time of this writing, served as Assistant General Counsel of the American Medical Association. This is one of a series of papers prepared by the AMA for publication in state medical journals on subjects of interest to practicing physicians. They will appear in no other publications.

are the authorities most frequently cited for the principles applicable to cases in which the taxpayer seeks to deduct costs of travel and transportation as business expenses. In *W. B. Turner v Commissioner* (56 TC 27, 1971), a consulting engineer residing in New York City who daily traveled considerable distances by automobile to work outside the city and home was held by the Tax Court to be a commuter. Therefore, his transportation expenses were not deductible under Section 162a of the Internal Revenue Code. Citing *Correll* and *Tauferner*, the court said, "Commuting is commuting, regardless of the work engaged in, the distance traveled, or the mode of transportation used. Our path was charted in *US v Tauferner*."

In the *Tauferner* case, the taxpayer deducted the cost of his daily transportation between his residence in Brigham City, Utah and a chemical plant where he worked as a contracts administrator. He traveled back and forth usually by public transportation using his own car only when he had to travel outside the bus schedule. The roundtrip covered 27 miles. *Tauferner* deducted the costs as ordinary and necessary business expenses under Section 162a of the Code. The IRS denied the deduction on the ground that his travel expenses were no different than that of any commuter.

As the Supreme Court said in *Correll*, "any rule in this area must make some arbitrary distinctions. The nature of the work engaged in, the distance traveled, the mode of transportation, the degree of necessity appear to be unsatisfactory guides with any degree of consistency and certainty. The basic unmodified fact of whether the taxpayer is going to the place where he begins his work or is returning from the place where he ceases work should be determinative. Such travels are expenses within Section 262 as personal, living, or family expenses whether in an urban, suburban, or rural setting. They are not business expenses under Section 162a."

In-Between Transportation

Of course, work patterns differ. One person may travel from his residency to his place of employment and remain there. At the end of his workday, he will return to his residence. Another may require travel from residence to the principal place of employment, from there to other work sites, return to his principal jobsite and then home at the end of the workday. Sometimes, this place to place travel will vary, with the first stop in the morning at one of the in-between jobsites,

and the last stop before returning home at either another in-between jobsite or the principal place of employment.

The principal question is whether the claimed deductions for transportation are ordinary and necessary business expenses within the meaning of Section 162a of the Internal Revenue Code. This is a question of fact. The determinative question involving ordinary and necessary business expenses when an automobile is used is whether the taxpayer is going to the place where he begins work and is returning to the place where he ceases work.

Travel between one's residence and regular place of employment is a nondeductible personal expense. "In-between travel" — principal place of employment to another jobsite — is a deductible business transportation expense. Return to the principal place of employment from the other jobsite is similarly deductible. However, travel to the first place of employment or from the last place of employment for the day, whether such place is the "tax home" or an "in-between" jobsite, is a nondeductible commuting expense (*Sanders v Commissioner*, CA 9, 139F 2nd, 296, 1971).

Extra Duty Travel

A taxpayer employed as a staff physician at a Veterans Administration hospital made 160 roundtrips by automobile from his residence to the hospital to fulfill his responsibility for "extra-duty patient care" performed outside his regular duty hours during a taxable year. Each roundtrip was 36 miles. The doctor computed the costs of those trips at \$576 and it was this amount that he deducted as business transportation expenses.

In denying this extra duty deduction, the Tax Court, citing its earlier decision in *M. G. Sheldon* (50 TC 24, 1968), said: "Although commuting expenses are incurred in order to reach one's place of employment, they are treated as non-business expenses since their amount depends upon the place one chooses to reside — a choice which results from personal and family considerations. This reasoning applies equally to the expense of commuting for regular duty or for extra duty" (*J. M. O'Hare*, 54 TC 874, 1970).

On Emergency Call

In *M. G. Sheldon*, the taxpayer, a physician who specialized in anesthesiology, was a fulltime hospital employee. Her usual working hours, Monday through Friday, were 8 am to 4:30 pm. In addition, she was on call for 24 hours every other weekday and for 48 hours every other weekend.

She had no outside medical practice.

The anesthesiologist contended that she was entitled to deduct at least 60 per cent of her automobile expenses. She believed that use of her automobile in response to emergency calls received at home was essential to performance in her employment. Furthermore, it was not feasible to use public transportation to the hospital. The Tax Court held that emergency calls were nondeductible commuting expenses.

A federal district court (*Dr. Phillip Cenac v US*, DC LA, 67-2 USTC Section 9576, 1966) stated that even where a physician is on emergency call and he takes his business automobile to a social function for that specific reason, at least some part of that transportation use is a personal one. "These uses . . . going to and from work, going home for lunch, going to social engagements, even when the doctor is on call, are similar to personal uses that everyone has in his personal life, and they are not considered under the law as business uses."

Some Departures from the Rules

A few courts, however, have allowed a deduction for second hospital trips from home, trips to patients' homes from home after the workday, and emergency visits to the hospital for critically-ill patients (*Karl Wolf v US*, DC MO, 64-1 USTC Section 9211). In *J. R. Bovington* (DC, Mont, CV 7733H, December 27, 1977), the federal district court allowed a physician to deduct automobile expenses which appeared to include allowances for emergency calls and for trips to hospitals and patients after the first trip from home. The physician, who lived in Helena, Montana, had no established pattern to his daily work schedule. He started his workday by traveling from his residence either to the hospital, to a nursing home, or to other places involving his practice. He also traveled between the various places where he practiced medicine. In addition, he essentially was on call on a round-the-clock basis.

Although the physician did not keep a record of the actual miles involved in the use of his automobile for his practice or for other purposes, the

court accepted the yearly mileage figure claimed by the taxpayer as attributable to use in his practice. In this connection, the computation was made on the basis of a claimed 15,000 miles per year at \$.12 per mile (the allowed deduction in 1977), 46 weeks during the taxable year, five days each week, less four miles round trip between the physician's office and his home.

Because of the daily trip patterns and the fact that the physician was on call at all times, it might be assumed that the physician had a number of second daily trips from his home to the hospital during the year. If this was the case, then the federal court might not have considered the prevailing rule that would have treated these second trips as commuting.

Changes in the Law and Regulations

In 1976, the Internal Revenue Service issued a ruling that reconsidered its previous determinations on transportation expenses in view of the judicial decisions in the *Correll*, *Turner*, and *Tauferner* cases. The ruling cites examples of the latest positions of the Internal Revenue Service. One such example incorporates facts similar to the "no set pattern" travel in *Bovington*, except that the taxpayer's principal place of work is located at his residence: "On days when the taxpayer drives to other worksites, the entire amount of transportation expenses is deductible." Before the IRS ruling became effective, it was countermanded by Public Law 95-427 which provided that the IRS could not apply it to transportation expenses incurred between 1976 and June 1, 1981. This provision was intended to provide Congress with more time to study the matter before the IRS promulgated any new rules or regulations.

The 1981 deadline for action passed and Congress has not yet enacted any new legislation in this area. As a result, the IRS may now lift its suspension of this ruling. No action has been reported, however, and it appears that the ruling continues to be suspended indefinitely. Physicians are encouraged to check with their tax advisers about this and other matters.

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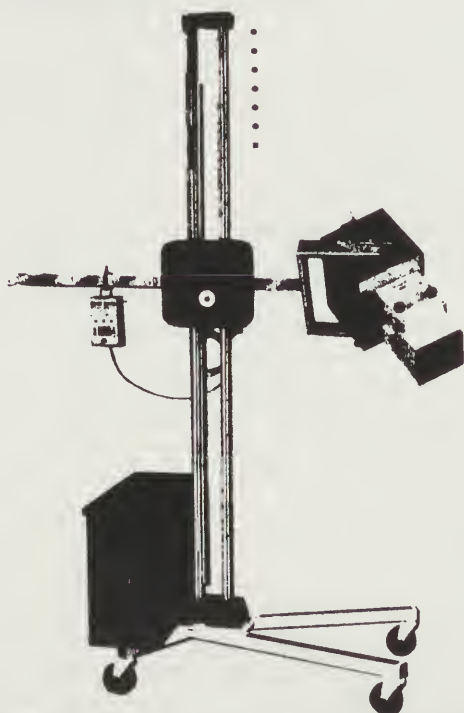
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



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The effectiveness of diazepam in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

Contraindications: Tablets or capsules in children under 6 months of age; known hypersensitivity; acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: As with most CNS-acting drugs, caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals (drug addicts or alcoholics) under careful surveillance because of predisposition to habituation/dependence.

Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because their use is rarely a matter of urgency and because of increased risk of congenital malformations, as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

ORAL: Advise patients against simultaneous ingestion of alcohol and other CNS depressants.

Not of value in treatment of psychotic patients; should not be employed in lieu of appropriate treatment. When using oral forms adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increase in dosage of standard anticonvulsant medication; abrupt withdrawal in such cases may be associated with temporary increase in frequency and/or severity of seizures.

INJECTABLE: *To reduce the possibility of venous thrombosis, phlebitis, local irritation, swelling and, rarely, vascular impairment when used I.V.: inject slowly, taking at least one minute for each 5 mg (1 ml) given; do not use small veins, i.e., dorsum of hand or wrist; use extreme care to avoid intra-arterial administration or extravasation. Do not mix or dilute with other solutions or drugs in syringe or infusion flask. If it is not feasible to administer Injectable Valium directly I.V., it may be injected slowly through the infusion tubing as close as possible to the vein insertion.*

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Has precipitated tonic status epilepticus in patients treated for petit mal status or petit mal variant status. Not recommended for OB use.

Efficacy/safety not established in neonates (age 30 days or less); prolonged CNS depression observed. In children, give slowly (up to 0.25 mg/kg over 3 minutes) to avoid apnea or prolonged somnolence; can be repeated after 15 to 30 minutes. If no relief after third administration, appropriate adjunctive therapy is recommended.

Precautions: If combined with other psychotropics or anticonvulsants, carefully consider individual pharmacologic effects—particularly with known compounds which may potentiate action of diazepam, i.e., phenothiazines, narcotics, barbiturates, MAO inhibitors and antidepressants. Protective measures indicated in highly anxious patients with accompanying depression who may have suicidal tendencies. Observe usual precautions in impaired hepatic function; avoid accumulation in patients with compromised kidney function. Limit oral dosage to smallest effective amount in elderly and debilitated to preclude ataxia or over-sedation (initially 2 to 2½ mg once or twice daily, increasing gradually as needed and tolerated).

The clearance of diazepam and certain other benzodiazepines can be delayed in association with Tagamet (cimetidine) administration. The clinical significance of this is unclear.

INJECTABLE: Although promptly controlled, seizures may return; readminister if necessary; not recommended for long-term maintenance therapy. Laryngospasm/increased cough reflex are possible during peroral endoscopic procedures; use topical anesthetic, have necessary countermeasures available. Hypotension or muscular weakness possible, particularly when used with narcotics, barbiturates or alcohol. Use lower doses (2 to 5 mg) for elderly/debilitated.

Adverse Reactions: Side effects most commonly reported were drowsiness, fatigue, ataxia. Infrequently encountered were confusion, constipation, depression, diplopia, dysarthria, headache, hypotension, incontinence, jaundice, changes in libido, nausea, changes in salivation, skin rash, slurred speech, tremor, urinary retention, vertigo, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity,

insomnia, rage, sleep disturbances and stimulation have been reported; should these occur, discontinue drug.

Because of isolated reports of neutropenia and jaundice, periodic blood counts, liver function tests advisable during long-term therapy. Minor changes in EEG patterns, usually low-voltage fast activity, observed in patients during and after diazepam therapy are of no known significance.

INJECTABLE: Venous thrombosis/phlebitis at injection site, hypoaesthesia, syncope, bradycardia, cardiovascular collapse, nystagmus, urticaria, hiccups, neutropenia. In peroral endoscopic procedures, coughing, depressed respiration, dyspnea, hyperventilation, laryngospasm/pain in throat or chest have been reported.

Dosage: Individualize for maximum beneficial effect.

ORAL: **Adults:** Anxiety disorders, relief of symptoms of anxiety—Valium (diazepam/Roche) tablets, 2 to 10 mg b.i.d. to q.i.d.; or 1 or 2 Valrelease capsules (15 to 30 mg) daily. Acute alcohol withdrawal—tablets, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; or 2 capsules (30 mg) the first 24 hours, then 1 capsule (15 mg) daily as needed. Adjunctively in skeletal muscle spasm—tablets, 2 to 10 mg t.i.d. or q.i.d.; or 1 or 2 capsules (15 to 30 mg) once daily. Adjunctively in convulsive disorders—tablets, 2 to 10 mg b.i.d. to q.i.d.; or 1 or 2 capsules (15 to 30 mg) once daily.

Geriatric or debilitated patients: Tablets—2 to 2½ mg 1 or 2 times daily initially, increasing as needed and tolerated (see Precautions). Capsules—1 capsule (15 mg) daily when 5 mg oral Valium has been determined as the optimal daily dose.

Children: Tablets—1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use in children under 6 months). Capsules—1 capsule (15 mg) daily when 5 mg oral Valium has been determined as the optimal daily dose (not for use in children under 6 months).

INJECTABLE: Usual initial dose in older children and adults is 2 to 20 mg I.M. or I.V., depending on indication and severity. Larger doses may be required in some conditions (tetanus). In acute conditions injection may be repeated within 1 hour, although interval of 3 to 4 hours is usually satisfactory. Lower doses (usually 2 to 5 mg) with slow dosage increase for elderly or debilitated patients and when sedative drugs are added. (See Warnings and Adverse Reactions.) For dosages in infants and children see below; have resuscitative facilities available.

I.M. use: by deep injection into the muscle.

I.V. use: inject slowly, take at least one minute for each 5 mg (1 ml) given. Do not use small veins, i.e., dorsum of hand or wrist. Use extreme care to avoid intra-arterial administration or extravasation. Do not mix or dilute Valium with other solutions or drugs in syringe or infusion flask. If it is not feasible to administer Valium directly I.V., it may be injected slowly through the infusion tubing as close as possible to the vein insertion.

Moderate anxiety disorders and symptoms of anxiety, 2 to 5 mg I.M. or I.V., and severe anxiety disorders and symptoms of anxiety, 5 to 10 mg I.M. or I.V., repeat in 3 to 4 hours if necessary; acute alcohol withdrawal, 10 mg I.M. or I.V. initially, then 5 to 10 mg in 3 to 4 hours if necessary. Muscle spasm, in adults, 5 to 10 mg I.M. or I.V. initially, then 5 to 10 mg in 3 to 4 hours if necessary (tetanus may require larger doses); in children administer I.V. slowly; for tetanus in infants over 30 days of age, 1 to 2 mg I.M. or I.V., repeat every 3 to 4 hours if necessary; in children 5 years or older, 5 to 10 mg repeated every 3 to 4 hours as needed. Respiratory assistance should be available.

Status epilepticus, severe recurrent convulsive seizures (I.V. route preferred), 5 to 10 mg adult dose administered slowly, repeat at 10- to 15-minute intervals up to 30 mg maximum. Repeat in 2 to 4 hours if necessary, keeping in mind possibility of residual active metabolites. Use caution in presence of chronic lung disease or unstable cardiovascular status. Infants (over 30 days) and children (under 5 years), 0.2 to 0.5 mg slowly every 2 to 5 min., up to 5 mg (I.V. preferred). Children 5 years plus, 1 mg every 2 to 5 min., up to 10 mg (slow I.V. preferred); repeat in 2 to 4 hours if needed. EEG monitoring may be helpful.

In endoscopic procedures, titrate I.V. dosage to desired sedative response, generally 10 mg or less but up to 20 mg (if narcotics are omitted) immediately prior to procedure; if I.V. cannot be used, 5 to 10 mg I.M. approximately 30 minutes prior to procedure. As preoperative medication, 10 mg I.M.; in cardioversion, 5 to 15 mg I.V. within 5 to 10 minutes prior to procedure. Once acute symptomatology has been properly controlled with injectable form, patient may be placed on oral form if further treatment is required.

Management of Overdosage: Manifestations include somnolence, confusion, coma, diminished reflexes. Monitor respiration, pulse, blood pressure; employ general supportive measures, I.V. fluids, adequate airway. Use levaterenol or metaraminol for hypotension. Dialysis is of limited value.

How Supplied:

ORAL: Valium scored tablets—2 mg, white; 5 mg, yellow; 10 mg, blue—bottles of 100 and 500; Prescription Paks of 50, available in trays of 10; Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25 and in boxes containing 10 strips of 10.

Valrelease (diazepam/Roche) slow-release capsules—15 mg (yellow and blue), bottles of 100; Prescription Paks of 30.

INJECTABLE: Ampuls, 2 ml, boxes of 10; Vials, 10 ml, boxes of 1; Tel-E-Ject® (disposable syringes), 2 ml, boxes of 10. Each ml contains 5 mg diazepam, compounded with 40% propylene glycol, 10% ethyl alcohol, 5% sodium benzoate and benzoic acid as buffers, and 1.5% benzyl alcohol as preservative.



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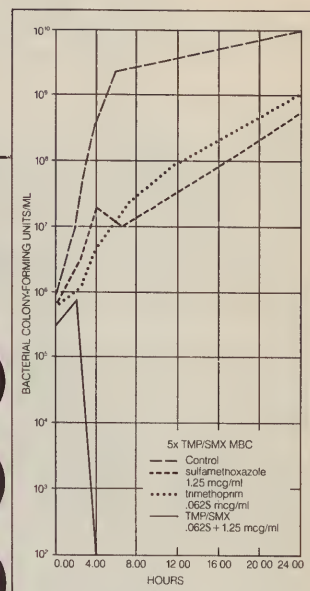
Percent of isolates of common uropathogens sensitive to BACTRIM and to other antimicrobials



†Analogous to cephalothin, the primary antibiotic disc used in testing.

Source: The Bacteriologic Report, BAC-DATA Medical Information Systems, Inc., Winter Series, 1981-82. Numbers under percentages refer to the projected number of isolates tested.

RAPID IN VITRO DESTRUCTION OF *E. COLI**



Kill curve kinetics of Bactrim and its individual components against *E. coli* *in vitro*.¹

The bactericidal action of Bactrim has been demonstrated *in vitro* on laboratory strains of *E. coli*^{1,2} and on clinical isolates of *E. coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis* and *Morganella morganii*³—the most common causative organisms of urinary tract infections.⁴ More than 100 published studies attest to the efficacy of Bactrim in recurrent urinary tract infections due to these organisms.⁵ In comparative studies with other antimicrobials, Bactrim has consistently demonstrated unsurpassed efficacy during therapy.⁶⁻¹¹

Resistance to Bactrim develops more slowly than to either of its components alone *in vitro*.^{*} Among urinary tract isolates, resistance has rarely emerged in susceptible strains.^{5,12} Bactrim is contraindicated in pregnancy at term, during lactation, in infants less than two months old and in documented megaloblastic anemia due to folate deficiency. Initial episodes of uncomplicated urinary infections should be treated with a single-agent antimicrobial.

Bactrim™ DS

(trimethoprim and sulfamethoxazole/Roche)

b.i.d. for recurrent urinary tract infections

**In vitro* data do not necessarily predict clinical results.

References: 1. Data on file, Hoffmann-La Roche Inc., Nutley, NJ. 2. Kramer MJ, Mauriz YR, Robertson TL, Timmes MD: Morphological studies on the effect of subinhibitory and inhibitory doses of sulfamethoxazole-trimethoprim combination on *Escherichia coli*. Presented at the 12th International Congress of Chemotherapy, Florence, Italy, Jul 19-24, 1981. 3. Spicehandler J et al: *Rev Infect Dis* 4:562-565, Mar-Apr 1982. 4. Stamey TA: *Pathogenesis and Treatment of Urinary Tract Infections*. Baltimore, Williams & Wilkins, 1980, p. 13. 5. Ronald AR: *Clin Ther* 3:176-189, Mar 1980. 6. Cooper J, Brumfitt W, Hamilton-Miller JMT: *J Antimicrob Chemother* 6:231-239, 1980. 7. Gower PE, Tasker PRW: *Br Med J* 1:684-686, Mar 20, 1976. 8. Cosgrove MD, Morrow JW: *J Urol* 111:670-672, May 1974. 9. Irvani A et al: *Antimicrob Agents Chemother* 19:598-604, Apr 1981. 10. Schaeffer AJ, Flynn S, Jones J: *J Urol* 125:825-827, Jun 1981. 11. Rous SN: *J Urol* 125:228-229, Feb 1981. 12. BAC-DATA Medical Information Systems, Inc., Bacteriologic Reports, Winter Series, 1976-82.

Bactrim™ DS

(trimethoprim and sulfamethoxazole/Roche)

Before prescribing, please consult complete product information, a summary of which follows:

Indications and Usage: For the treatment of urinary tract infections due to susceptible strains of the following organisms: *Escherichia coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis*, *Proteus vulgaris*, *Proteus morganii*. It is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single effective antibacterial agent rather than the combination. Note: The increasing frequency of resistant organisms limits the usefulness of all antibacterials, especially in these urinary tract infections.

For acute otitis media in children due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over other antimicrobials. To date, there are limited data on the safety of repeated use of Bactrim in children under two years of age. Bactrim is not indicated for prophylactic or prolonged administration in otitis media at any age.

For acute exacerbations of chronic bronchitis in adults due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over a single antimicrobial agent.

For enteritis due to susceptible strains of *Shigella flexneri* and *Shigella sonnei* when antibacterial therapy is indicated.

Also for the treatment of documented *Pneumocystis carinii* pneumonitis.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; patients with documented megaloblastic anemia due to folate deficiency; pregnancy at term; nursing mothers because sulfonamides are excreted in human milk and may cause kernicterus; infants less than 2 months of age.

Warnings: BACTRIM SHOULD NOT BE USED TO TREAT STREPTOCOCCAL PHARYNGITIS. Clinical studies show that patients with group A β -hemolytic streptococcal tonsillopharyngitis have higher incidence of bacteriologic failure when treated with Bactrim than do those treated with penicillin. Deaths from hypersensitivity reactions, hepatocellular necrosis, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

Precautions: *General:* Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function. Bactrim may prolong prothrombin time in those receiving warfarin; reassess coagulation time when administering Bactrim to these patients.

Pregnancy: Teratogenic Effects: Pregnancy Category C. Because trimethoprim and sulfamethoxazole may interfere with folic acid metabolism, use during pregnancy only if potential benefits justify the potential risk to the fetus.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, hepatocellular necrosis, diarrhea, pseudomembranous colitis and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diabetes and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: Not recommended for infants less than two months of age.

URINARY TRACT INFECTIONS AND SHIGELLOSIS IN ADULTS AND CHILDREN, AND ACUTE OTITIS MEDIA IN CHILDREN:

Adults: Usual adult dosage for urinary tract infections—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days. Use identical daily dosage for 5 days for shigellosis.

Children: Recommended dosage for children with urinary tract infections or acute otitis media—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. Use identical daily dosage for 5 days for shigellosis.

For patients with renal impairment: Use recommended dosage regimen when creatinine clearance is above 30 ml/min. If creatinine clearance is between 15 and 30 ml/min, use one-half the usual regimen. Bactrim is not recommended if creatinine clearance is below 15 ml/min.

ACUTE EXACERBATIONS OF CHRONIC BRONCHITIS IN ADULTS:

Usual adult dosage: 1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 14 days.

PNEUMOCYSTIS CARINII PNEUMONITIS:

Recommended dosage: 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.

Supplied: Double Strength (DS) tablets, each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 20. Tablets, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 40. Pediatric Suspension, containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); cherry flavored—bottles of 100 ml and 16 oz (1 pint). Suspension, containing 40 mg trimethoprim and 200 mg sulfamethoxazole per tea spoonful (5 ml); fruit-licorice flavored—bottles of 16 oz (1 pint).

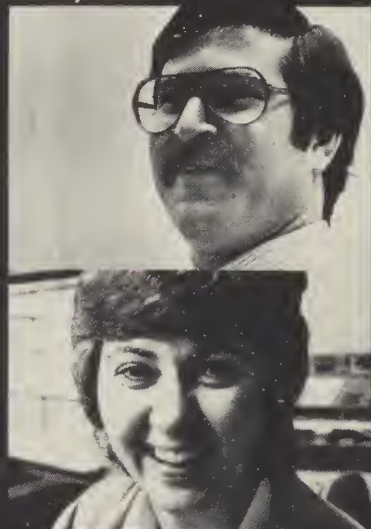


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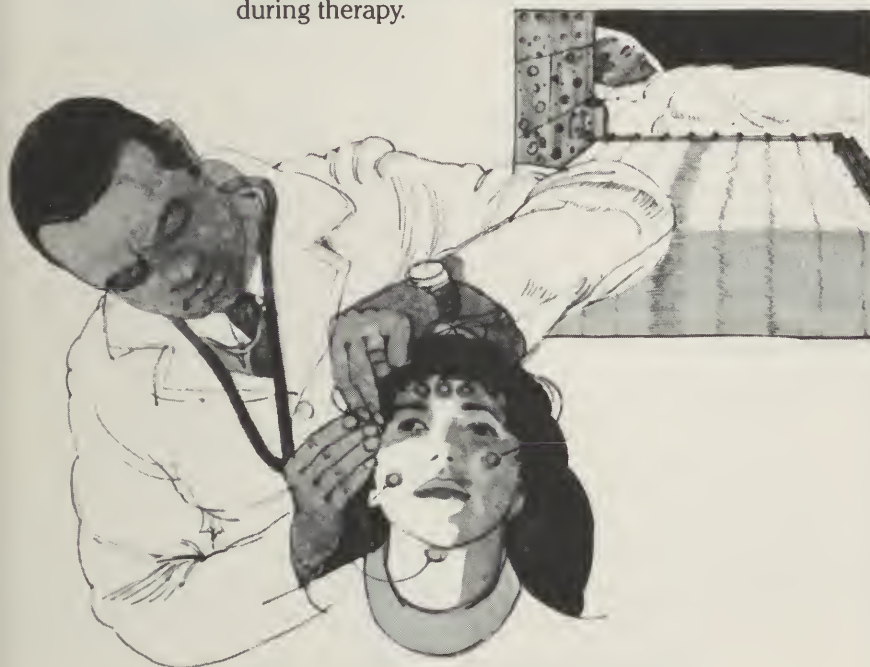
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- Studied in over 200 clinical trials involving over 10,000 patients.¹³
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- Contraindicated in patients who are pregnant or hypersensitive to flurazepam.
- Caution patients about drinking alcohol, driving or operating hazardous machinery during therapy.



References: 1. Kales A et al: *J Clin Pharmacol* 17:207-213, Apr 1977 and data on file, Hoffmann-La Roche Inc., Nutley, NJ. 2. Kales A: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. 3. Zimmerman AM: *Curr Ther Res* 13:18-22, Jan 1971. 4. Kales A et al: *JAMA* 241:1692-1695, Apr 20, 1979. 5. Kales A, Scharf MB, Kales JD: *Science* 201:1039-1041, Sep 15, 1978. 6. Kales A et al: *Clin Pharmacol Ther* 19:576-583, May 1976. 7. Kales A, Kales JD: *Pharmacol Physicians* 4:1-6, Sep 1970. 8. Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc* 27:541-546, Dec 1979. 9. Dement WC et al: *Behav Med* 5:25-31, Oct 1978. 10. Vogel GW: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. 11. Karacan I, Williams RL, Smith JR: The

sleep laboratory in the investigation of sleep and sleep disturbances. Scientific exhibit at the 124th annual meeting of the American Psychiatric Association, Washington, DC, May 3-7, 1971. 12. Pollak CP, McGregor PA, Weitzman ED: The effects of flurazepam on daytime sleep after acute sleep-wake cycle reversal. Presented at the 15th annual meeting of the Association for Psychophysiological Study of Sleep, Edinburgh, Scotland, June 30-July 4, 1975. 13. Data on file, Hoffmann-La Roche Inc., Nutley, NJ.

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Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; in acute or chronic medical situations requiring restful sleep. Objective sleep laboratory data have shown effectiveness for at least 28 consecutive nights of administration. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended. Repeated therapy should only be undertaken with appropriate patient evaluation.

Contraindications: Known hypersensitivity to flurazepam HCl; pregnancy. Benzodiazepines may cause fetal damage when administered during pregnancy. Several studies suggest an increased risk of congenital malformations associated with benzodiazepine use during the first trimester. Warn patients of the potential risks to the fetus should the possibility of becoming pregnant exist while receiving flurazepam. Instruct patient to discontinue drug prior to becoming pregnant. Consider the possibility of pregnancy prior to instituting therapy.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, e.g., excitement, stimulation and hyperactivity.

Dosage: Individualize for maximum beneficial effect. **Adults:** 30 mg usual dosage; 15 mg may suffice in some patients. **Elderly or debilitated patients:** 15 mg recommended initially until response is determined.

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.

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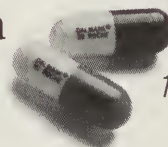
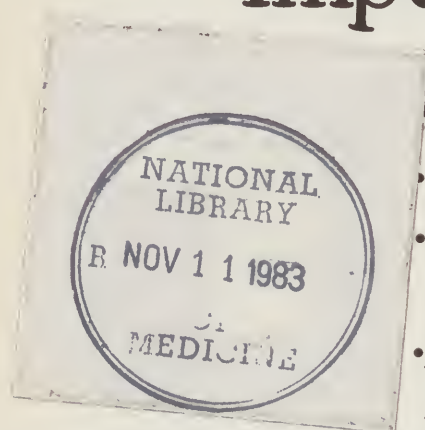
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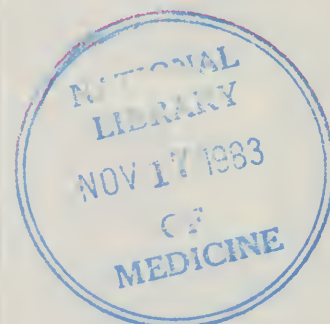
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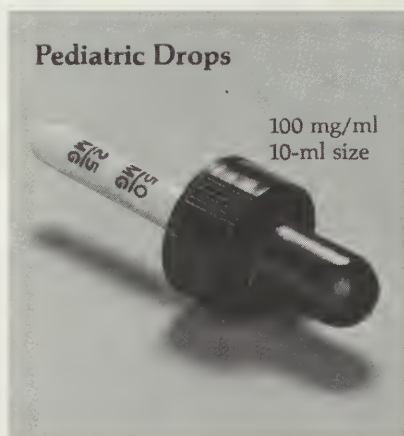
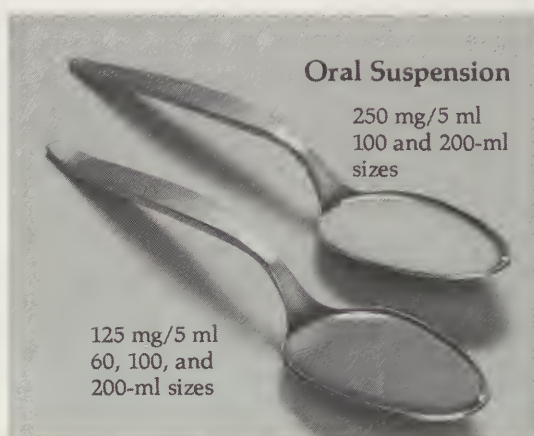
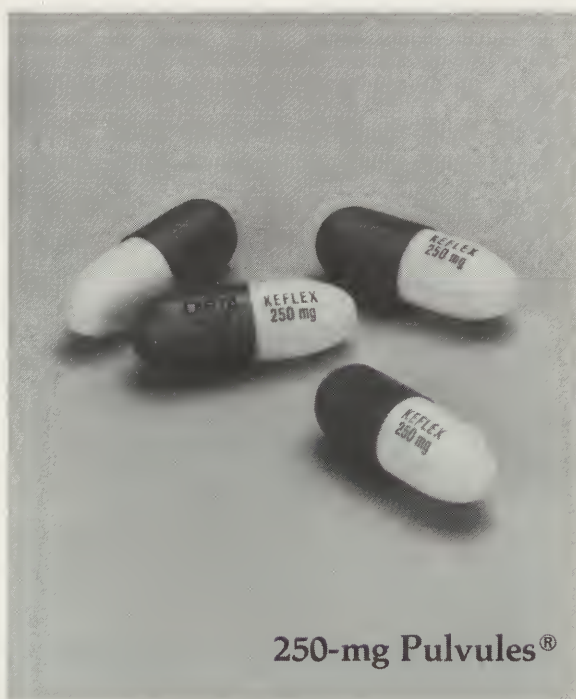


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Newsletter

Charles P. Shoemaker, Jr., MD, President
Norman A. Baxter, PhD, Executive Director
Wendy J. Smith, Editor

NOVEMBER 1983

HOUSE REQUESTS SPECIAL MEMBERSHIP MEETING ON INSURANCE REIMBURSEMENT

The House of Delegates recently authorized Society President Dr Charles P. Shoemaker, Jr. to convene a general membership meeting on a controversial AMA proposal which would radically change the way third-party payers reimburse physicians. The AMA Council on Medical Service suggested in June that the AMA consider dropping its existing support of the "usual, customary, or reasonable" (UCR) reimbursement concept and instead endorse an indemnification program. The proposal has been circulated throughout the federation to stimulate debate and will be on the agenda of the AMA House of Delegates at its interim meeting in December.

Under an indemnification program, third-party payers would reimburse physicians a predetermined amount for their professional services, and the patient could be billed for the balance if the amount were less than the physician's charges. The AMA Council on Medical Service believes that continued support of the UCR approach would transform physicians into the "captives of public and third-party payers."

The November 7 general membership meeting on the subject featured a panel discussion with Dr John J. Cunningham, the Society's delegate to the AMA; Dr Louis Vito, Jr., Chairman, RIMS Committee on Medical Economics; Douglas J. McIntosh, President, Blue Cross & Blue Shield of Rhode Island; Dr Robert McAfee, South Portland, Maine, a member of the AMA Council on Long-Range Planning; and Dr Grant V. Rodkey, Boston, a member of the AMA Council on Medical Service. Dr Rodkey and the Massachusetts Medical Society have been the plaintiffs in continuing litigation against Blue Cross & Blue Shield of Massachusetts. The December "Newsletter" will include highlights from the meeting.

In other actions at its September 21 meeting, the House of Delegates:

- welcomed delegates of the 21 "officially recognized specialty societies" who were eligible to vote for the first time as the result of By-Laws changes approved by the membership in May.
- elected nine new members to the standing committees of the Society. Among the new members approved for the Committee on Medical Economics was David Murdy, a member of the Brown University Program in Medicine Class of 1984. Mr Murdy becomes the first student member to serve on a standing committee.
- set 1984 dues for Active Constituent members at \$300 and approved a proposed 1984 budget which shows an anticipated income of \$452,350 and expenditures of \$443,760.
- elected Dr Daniel Moore, Jr., Providence, as a trustee of the Benevolence Fund for a three-year term beginning January 1.
- elected Dr Herbert F. Hager, also of Providence, as parliamentarian of the House of Delegates.



COUNCIL DISCUSSES 1984 ANNUAL MEETING

Plans for the 1984 Annual Meeting of the Rhode Island Medical Society were announced at the October meeting of the Council. The meeting, to be held Wednesday, May 23, at the Providence Marriott, will begin at noon with a luncheon featuring the AMA President-Elect, Dr Joseph Boyle, as the guest speaker. It will be followed by an open meeting of the House of Delegates, the annual business meeting, and the Chapin Oration presented by Dr Robert G Petersdorf, Vice-Chancellor and Dean, University of California at San Diego Medical School. Dr Petersdorf, an accomplished administrator who is also known for his work with infectious diseases, will examine the impact of government regulation on medical practice.

The annual dinner, scheduled to begin with a reception at 6 pm, will be a predominantly social affair, except for a keynote address. A high-ranking official of the Reagan Administration has been invited.

In other actions at its October 3 meeting, the Council:

- received an informational report on a September conference sponsored by the American Medical Association on professional review organizations, the successor agencies to PSROs.
- heard a report from President-Elect Dr Paul J.M. Healey on the Society's Ad Hoc Committee on Tort Reform.
- authorized an ad hoc task force to determine how a statewide medical auxiliary could be re-established. While the Rhode Island Medical Auxiliary was disbanded as a statewide unit in the early 1970s, there presently are active auxiliaries in four of the state's seven counties. Considerable interest has been expressed on both the state and national levels in reactivating a state chapter.
- approved plans of the Society's Committee on Membership Development, headed by Dr Melvin D. Hoffman, to implement a membership recruitment campaign targeted towards medical students, residents, and women physicians.

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BLUE CROSS & BLUE SHIELD TO COVER ORGAN TRANSPLANTATIONS

Blue Cross & Blue Shield of Rhode Island recently obtained approval from the state insurance department for an optional rider which will cover the costs of organ transplantation surgery. The new rider, one of the first in the country, provides comprehensive benefits for the medical, surgical, and hospital expenses of liver, heart, lung, pancreas, small intestine, and other transplantation procedures.

While the rider was developed specifically for the 10,000 members of Teamsters Union Local 251, it will be offered to all enrolled groups with at least 300 employees for an experimental one-year period. It will not be available to subscribers who transfer from group to non-group membership, or to enrollees in such other non-group programs as Plan 65, student, and disability programs.

On a related issue, the Society is participating in an educational program intended to encourage the public to consider signing a uniform organ donor card. Other participants include the Rhode Island Department of Health; Life Insurance Underwriters Association; Hospital Association of Rhode Island; Lions' Sight Foundation; Rhode Island Chapter, American Academy of Pediatrics; and the New England Organ Bank. A future issue of this Journal will focus on the clinical, administrative, and social considerations of organ transplantation.

Society members in the news include:

- Blas Moreno, MD, Pawtucket, has been inducted into the Rhode Island Heritage Hall of Fame for his contributions to military and civilian medicine. Dr Moreno is a colonel in the Rhode Island Air National Guard.
- The American College of Physicians recently elevated Faiza F. Estrup, PhD, MD, to the rank of fellow. Dr Estrup, a Providence rheumatologist, is the Chief of Rheumatology at The Memorial Hospital, Pawtucket, and also on the active staffs of The Miriam, Rhode Island and Roger Williams General Hospitals.
- New officers at Notre Dame Hospital, Central Falls, include Safa F. Wagdi, MD, Pawtucket, president of the medical staff; Ibrahim Sabbagh, MD, Rumford, vice-president; Earle Travis, DO, secretary-treasurer; and Abdalla G. Abadier, MD, Warwick, and Abdul E. Memon, MD, Pawtucket, members-at-large.

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RHODE ISLAND HOSPITAL TO PARTICIPATE IN COOPERATIVE STUDY

Rhode Island Hospital, Providence, recently received more than \$500,000 from the National Heart, Lung, and Blood Institute to establish a clinical site for the study of thrombolytic therapy in patients with myocardial infarctions. The study, which will involve 13 clinical testing sites, will determine the efficacy of thrombolytic therapy and whether it reduces the extent of damage to cardiac muscles. Drs David O. Williams and Robert Capone will serve as principal investigators for the study. Other investigators from the hospital will include Drs Albert Most, Thomas Drew, Arun Singh, Henry Gewirtz, and James Crowley.

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PRACTICE MANAGEMENT QUESTION OF THE MONTH:

HOW SHOULD I EVALUATE MY PRACTICE FOR COMPUTERIZATION?

As the initial step in deciding whether or not to install a computer in your medical practice, a detailed and comprehensive evaluation of your practice characteristics and requirements is essential. The evaluation, at a minimum, should:

- clearly define your practice objectives and requirements.
- identify existing problems and forecast potential future "troublespots."
- determine the feasibility of computer support for both clinical and administrative functions.
- identify alternative solutions, if appropriate, to practice problems.

While many physicians are tempted to perform only a cursory practice evaluation, you can avoid predictable problems by determining both your current objectives and anticipated future needs. The requirements of physicians who plan to retire within the next ten years obviously will differ from those who are building up a practice base. Physicians -- and their staff -- must participate in the evaluation process during all stages.

METHODOLOGY

Practice management assessments generally are carried out by computer vendors, physicians themselves or others from the practice, or independent consultants. Vendors have an obvious vested interest in your practice evaluation, and persons associated with the practice may encounter problems in distinguishing between their personal biases and a more objective analysis. If an outside consultant is selected, the contract should stipulate that no monetary return from any vendors would result from any of the consultant's recommendations.

An evaluation is comparable in many ways to a detailed history and physical examination of a patient. Several sources should be utilized, including: (1) an in-depth analysis of such records as organizational charts, job descriptions, office policies, procedure manuals, and appointment logs; (2) individual interviews with all physicians and personnel; and (3) direct observations. You and your staff must be involved with the data collection process, and this responsibility should not be delegated.

DATA COLLECTION

The data on your current practice patterns usually will focus on volume considerations and should include such figures as:

Practice characteristics: Number of physicians, practice locations, employees, active patients, inactive patients, and new patients added or deleted during the year.

Averages of daily physician activities: Office visits, hospital visits, consultations, and the number of procedures performed during patient visits.

Billing and insurance policies: Number of statements prepared during each period (either monthly or billing cycle); insurance forms per month by category, ie, Blue Shield, Medicare, Medicaid, and workers' compensation cases; the daily number of charges, payments, and account adjustments; the number of inquiries about incomplete or incorrect insurance claims; and the time lapse between the date of service and the submission of an insurance claim.

Once the quantitative information has been collected, you should also address such subjective issues as personal preferences, philosophy of practice, and methods of operation. The anticipated future directions of your practice and the impact of any planned changes must be evaluated at this point. As an example, the decision of an obstetrician/gynecologist to limit his or her practice to gynecology would have an immediate significant impact. Other changes to be considered include adding more physicians or support staff, requesting payment at the time of service, and declining Medicare assignment. Because some factors which may affect medical practices are beyond the direct control of physicians (such as declining birth rates, an aging population, or changing insurance requirements), an objective assessment of their impact will be difficult to measure. For this reason, physicians may well find an independent consultant who is knowledgeable about medical practices to be especially valuable.

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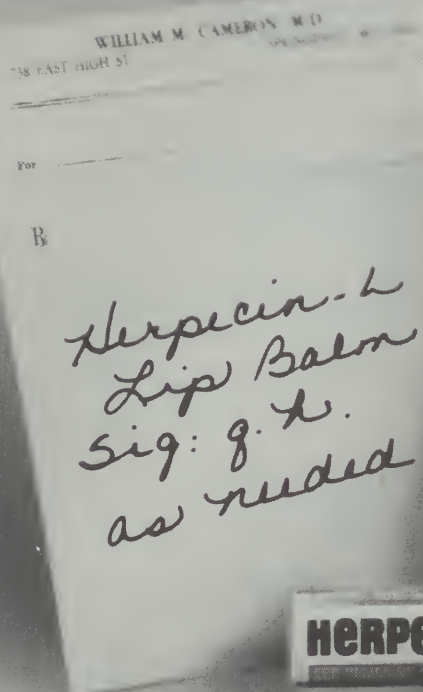
Do You Know an Impaired Physician?

Treatment of physicians for alcohol addiction shows a favorable outcome in 83 per cent of cases, and treatment of physicians for drug addiction has a 95 per cent success rate. More than 70 per cent of the physicians entering treatment return to the active practice of medicine.

The Rhode Island Medical Society Committee on Impaired Physicians, chaired by Dr Herbert Rakatansky, meets monthly. It is a standing committee of the Society charged with "helping physicians whose professional judgments and capabilities are impaired by their difficulties with chemical dependency or other illnesses."

The Committee handles inquiries in *complete confidence*. If you know of a physician who needs an advocate and support in obtaining necessary treatment, please call or write Dr Rakatansky c/o The Committee on Impaired Physicians, Rhode Island Medical Society, 106 Francis Street, Providence 02903 (401/331-3207).

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Rhode Island Medical Journal

November 1983
Volume 66, Number 11

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Rhode Island Medical Journal is owned and published by the Rhode Island Medical Society, 106 Francis Street, Providence, Rhode Island 02903, Ph: 401/331-3207. Single copies \$2.00 — Subscriptions \$15.00 per year (members of the Rhode Island Medical Society — \$5.00 annually). Published articles represent opinions of the authors and do not necessarily reflect the official policy of the Rhode Island Medical Society unless clearly specified. Advertisements do not imply sponsorship or endorsement by the Rhode Island Medical Society. Second class postage paid at Providence, Rhode Island and at additional mailing offices. ISSN 0363-7913



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Special Report

Nancy L. Watson

COVER:

Approximately 40 million Americans still smoke nearly 20 years after the publication of a landmark report from the US Surgeon General on smoking. For an analysis of the American cigarette industry and the psychological and physiological factors of "kicking the habit," see pages 451 and 455.

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The Nicotine Fix: A Personal Perspective

Elsewhere in this issue of the *Journal* we have reprinted a paper which traces the phenomenal growth of the American cigarette industry, and examines some of the reasons why 40 million Americans still smoke almost 20 years after publication of the Surgeon General's report. The author, who serves as editor of the *Harvard Medical School Health Letter*, postulates that attempts to deal with the social and economic impact of tobacco are doomed without widespread recognition that a multi-billion dollar industry is based on the skillful marketing to vulnerable adolescents of one of the most addictive substances known to man.

Tobacco emerged as one of the first cash crops in the New World, and it has been grown and harvested since the earliest English colonists settled along the Jamestown River. Despite continual modifications in the curing process during the next 200 years, the supply of tobacco far exceeded the demand until the son of an impoverished former Confederate soldier refined a method for the mass production of cigarettes in the 1880s. Paradoxically, the man who started it all, one James Buchanan Duke, did not smoke himself. By 1888, Duke was selling some 740 million cigarettes annually, and two years later he established the American Tobacco Company which monopolized the cigarette industry until it fell victim to the trust-busters in 1911. This action had no impact on the volume of cigarettes sold, and indeed the four companies which resulted from the forced corporate reorganization still dominate the market today.

Despite years of negative publicity, Americans in 1980 smoked more than 700 billion cigarettes. The 1964 report of the US Surgeon General conclusively linked the habit with a higher incidence of cardiovascular and respiratory dysfunctions, and the evidence against cigarettes has been accumulating ever since. The mortality rate for smokers is 70 per cent higher than for nonsmokers, and a 30-year-old male who smokes two packs of cigarettes a day can expect to live 8.1 years less than a nonsmoker of the same age. The economic

and social costs are appalling. According to the Rhode Island Department of Health, the direct expenses of smoking-related diseases and the indirect costs of lost earnings in 1979 for the state's residents amounted to some \$165 million. As if this were not bad enough, the evidence is growing that smokers endanger the comfort, health, and welfare of others through their constant pollution of the atmosphere. Recent studies at the Harvard University Channing Laboratory have demonstrated that nonsmoking children of smoking parents have measurably impaired respiratory functions, and earlier studies had reported that such children suffer from higher than normal rates of pulmonary infections.

How did cigarettes gain such a stranglehold in American life and why don't these people just stop? As one of the millions of Americans who have tried and failed to kick the habit, I have a vested interest. Smokers have been accused of being inconsiderate of their neighbors, a menace to the public health, and deficient in the moral fiber necessary to curb an unpleasant habit. Yet, as the author of the accompanying paper and other investigators have pointed out, smokers must deal with both the physiological addiction and a psychological dependency if and when they decide to quit.

By combining American ingenuity with a bold advertising campaign targeted toward the young, J. B. Duke made possible a widespread addiction to a toxic and powerful substance. Nicotine is absorbed efficiently only through an alkaline medium. Before the mass production of cigarettes, tobacco users primarily chewed or snuffed an alkaline-based product generally regarded as too harsh for smoking. When used this way, the nicotine is absorbed directly through the mucous membranes of the mouth or nose. Cigarettes, however, provide a more efficient way of delivering nicotine to the brain. The development of flue-cured tobacco produced a slightly acidic smoke which must be inhaled for any nicotine to be absorbed as the smoke is converted to an alkaline form only in the lungs. The nicotine is

transmitted to the brain in a series of very concentrated doses, each about seven seconds after the smoke enters the lungs, or approximately twice as fast as heroin traveling from the forearm.

The physiological impact of this remarkably efficient process is potent and immediate, and it explains one of the reasons why the withdrawal symptoms can be painfully acute. In addition to the other pleasures derived from the smoking ritual, it has been estimated that the average smoker each year receives between 70,000 and 100,000 positive reinforcements in the form of nicotine shocks. The severity of the withdrawal symptoms, which can last for periods varying from weeks to years, depends on such factors as the number of cigarettes smoked, the age of onset, duration of habit, and sex of user. For reasons that remain unclear, women have a more difficult time quitting than men. Persons who quit smoking suddenly find themselves besieged with such annoying situations as an inability to concentrate, nausea, headaches, changes in bowel habits, and a nearly intolerable level of anxiety and irritation. For most smokers, the craving lasts for a month and for twenty per cent of them, it persists for five to nine years. For some unfortunate souls, it never disappears.

The psychological reinforcements for smoking also play a significant role in the process, and there probably are as many rationalizations for the addiction as there are smokers. Despite all intellectual evidence to the contrary, smoking was firmly established in my own mind as a symbol of maturity. One of the first memories of my childhood was being allowed to sit at the dinner table with the "grown-ups" while they enjoyed a post-prandial cigarette and a cup of coffee. While my mother and stepfather quit a number of years ago, the blue haze of cigarette smoke literally clouds the remembrances of holiday gatherings during my youth.

J. B. Duke capitalized on such psychological factors in a brilliant display of merchantilism by

starting an aggressive advertising campaign which has continued to the present day. To capture the youth market, premiums of playing cards were offered with the earliest cigarettes during the 1890s and the first years of this century. Over the succeeding decades, cigarettes have variously been extolled as "the thinking man's cigarette," "the brand smoked by more doctors," and most recently, as a symbol of feminine equality. Cigarette advertisements cover nearly half of the billboards in this country and appear in most newspapers and popular magazines.

Most attempts at reform are directed at confirmed smokers, rather than towards potential victims, ie, the young. The Rhode Island Council on Smoking has long conducted a successful campaign in the junior and senior high schools targeted at this very age group. The Council is supported by the Interagency Council on Smoking, of which the Rhode Island Medical Society is a constituent member.

The key to success may well be to prevent adolescents from smoking that first cigarette. A British government study revealed that a youngster who smoked more than one has only a 15 per cent chance of remaining a nonsmoker. Smokers in advertisements, however, are depicted as being confident, attractive, and powerful, qualities which many adolescents feel are missing from their lives. The message can be devastatingly effective for teenagers, especially females, who are seeking relief from these pressures. While the proportion of young men who smoke has declined slightly during the past five years, it has remained fairly constant for young women. Since women generally have a harder time kicking the habit, the long-range implications of smoking during their teen-age years become even more significant.

Wendy J. Smith



The Accountability of Physicians

Primarily as the result of a widely-publicized Board of Medical Review ruling against a Society member, the Board was the subject of intense debate at the October meeting of the RIMS Council. It became apparent that many physicians erroneously believe that the Board functions as an arm of the Rhode Island Medical Society. I should like to take this opportunity to set the record straight as to the history and function of the Board and to suggest some potential reforms.

Board of Medical Review

The Rhode Island General Assembly created the Board of Medical Review in 1976 through an amendment to Chapter 37, the licensure act governing physicians, of the General Laws of Rhode Island. The amendment was introduced as part of a complex series of legislative reforms during the 1975 and 1976 sessions intended to alleviate the professional liability problem. Other components of the package included a reduced statute of limitations, adjudication panels, the Joint Underwriting Association, and a continuing medical education requirement.

As the "watchdog" agency for the state's physicians, the Board consists of five licensed physicians; one hospital administrator; and two public members not associated with the health care field, one of whom must be an attorney. All are appointed by the governor for three-year terms. The Director of the Department of Health or his designee serves as a non-voting member. While the governor is required to submit the names of the physician nominees to "the appropriate medical societies for comments as to their qualifications," the Rhode Island Medical Society has no veto power over prospective Board candidates. Empowered with the authority to issue subpoenas, the Board is charged with "investigating all complaints and charges of unprofessional conduct against licensed physicians." Its activities are financed through an annual \$50 assessment levied on all licensed physicians; hospitals must pay a \$15 fee per bed.

Many physicians intensely resent the fact that



Charles P. Shoemaker, Jr., MD

they must pay for the Board's continued existence while many of the gains achieved as part of the "malpractice reform package" have been wiped out by adverse judicial decisions or legislative fiats. It has been suggested that the Society try to have the Board abolished and that we return to the status quo that prevailed before 1976. Others have recommended transferring the responsibility for the Board's regulatory activities to the Mediation Committee of the Society.

Both approaches would be impractical and self-defeating for several reasons. First, in view of the public's demand for accountability by all professionals, we really cannot expect to function without some regulatory restraints imposed by the state. Physicians have traditionally encouraged active review by their professional colleagues as an integral and necessary part of good medical practice. Indeed, medical societies emerged in this country during the mid-1800s

for the specific purpose of monitoring the quality of care provided by its members. The Board of Medical Review, which is mandated by law to include a physician majority, is far better qualified to perform these activities than comparable boards in other states, such as California, which are dominated by consumers. Second, because of the limited sanctions available to it, the Rhode Island Medical Society could not replace the regulatory authority of the Board. Membership in the Society is entirely voluntary, and physicians who come under the scrutiny of the Mediation Committee or Committee on Impaired Physicians must willingly participate in the proceedings. The Society, however, cannot revoke a medical license or impose any practice restrictions. Third, even if the Society could invoke legally-binding sanctions, these activities could well create an atmosphere of hostility and mistrust within our ranks. While the discussion at last month's Council meeting was at times heated, I can't conceive of what would have transpired if the Society played an active role in an unpopular Board decision against a member.

In the final analysis, it appears that physicians will continue to need the Board of Medical Review as it is presently constituted. The Board holds open meetings on the third Wednesday of every month beginning at 1 pm at its headquarters, 100 India Street, in Providence. We also have asked Doctor Stephen J. Hoye, whose term as Board chairman recently expired, to write a commentary on the Board's functions for a future issue of the *Rhode Island Medical Journal*.

Fraud

The recent criminal indictment of several officials at The Miriam Hospital in Providence for alleged double-billing was chilling news and casts

a pall over the medical community even though criminal intent in the supposed irregularities is yet to be demonstrated in court. A week after the indictments were handed down, the *Providence Journal* reported on billing errors in the state's other hospitals although it was emphasized that no charges of alleged fraud had been filed.

While the courts must evaluate the merits of The Miriam Hospital case, I remain primarily concerned that innocent physicians may well face criminal charges because of billing errors in their offices. The rules and regulations on billing procedures are becoming more and more contorted, and the probability of mistakes is almost guaranteed. The situation is compounded by the emergence of new technologies and the intricacies of billing for concurrent care when two or more physicians are involved in one case. Unlike other carriers, Blue Cross & Blue Shield of Rhode Island does not routinely publish an updated and comprehensive billing manual. It is paradoxical that in this age of paperless claims processing and computerization, we receive a continuous barrage of memoranda from the Blues about what they will and will not pay for. My own billing manual is a messy pastiche of cross-references and pasted-in inserts.

We cannot tolerate fraud or billing abuse, and the recent mailing from the Blues about its abuse surveillance program has heightened this concern. At the same time, third-party payers must implement adequate safeguards to prevent billing errors which result from ignorance. The annual publication of a practical billing manual would help considerably. To this end, I have asked Douglas J. McIntosh, President, Blue Cross & Blue Shield of Rhode Island, to write a guest editorial about his concerns for a future issue of the *Journal*. ■

The Nicotine Fix

Cigarette Industry Is Based on the Principle of Selling Perhaps the Most Addicting of Known Substances to Minors

William Bennett, MD

After Appomattox, Washington Duke, a Confederate soldier captured at Richmond, was released from Libby Prison. His only remaining assets were two blind mules, a farm in North Carolina, and a barn full of tobacco leaf purchased before he went to war. With his family's help, Duke pulverized the tobacco, packaged it in large muslin bags, and peddled it from a wagon drawn by mules. He sold his new brand of smoking tobacco under the name Pro Bono Publico and did moderately well, though he was up against stiff competition from the better-known brand, Bull Durham. All in all, it was an event the world might little note, nor long remember.

Then, more than one hundred years ago, James Bonsack, a Virginian with a knack for machinery, changed things. He filed for a patent on his device to manufacture cigarettes. Just then, James Buchanan Duke, Washington's son and now head of the family enterprise, was feeling frustrated by the Duke firm's relatively small share of the tobacco market. He saw in Bonsack's machine a way to enlarge it. So in 1884 he purchased and installed some machines, improved them, poured in bright yellow tobacco at one end, collected the cigarettes that tumbled out of the other end, and sold them. And sold them. By 1888, Duke alone was selling 740 million cigarettes a year, fifty per cent more than the entire United States' production when Bonsack filed for his patent. In 1890 Duke formed the American Tobacco Company, which successfully monopolized the cigarette industry until 1911, whereupon the trust was busted into four of the

six giants that still sell cigarettes to America and the world: American, Liggett and Myers, Lorillard, and Reynolds.

The Growth of the American Cigarette Industry

The growth of the American cigarette industry was phenomenal. In 1889, only five years after the industry was mechanized, the United States produced 2.5 *billion* cigarettes, of which 40 per cent were Duke's; some 30 years later it was up to 53 billion; last year it was 704 billion, after many years of exceedingly adverse publicity, including a statement on every package of cigarettes that its contents are poisonous. Indeed, there is something profoundly mysterious about the rise of the cigarette industry. Doubts about the safety of cigarette smoking arose very early — the term "coffin tack" dates from the turn of the century — and they hardened into certainty within a couple of generations.

Despite its manifest popularity, what "public good" cigarette tobacco serves is not immediately obvious. In America, there are 54 million adult and 5 million adolescent smokers; if they continue their habit, most of the men in that group will never see seventy and the women are unlikely to live more than a year or two longer. Cigarette smokers of both sexes will carry a larger than normal burden of disease throughout their lives.

Moreover, it has become clear from reports published in the last two years that nonsmokers suffer some, possibly irreversible, damage to their lungs from exposure to the cigarette smoke of others. Ira Tager and his colleagues at Harvard's Channing Laboratory have demonstrated that the nonsmoking children of smoking parents are measurably abnormal in a breathing test that evaluates the integrity of small air passages in the lungs. James R. White and Herman F. Froeb of the University of California at San Diego showed the same effect in nonsmoking adults who work with smokers. Earlier studies had indicated that

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children in smoking homes have higher than normal rates of respiratory infection.

To assess the scope of the problem for non-smokers, two government experts, James L. Repace and Alfred H. Lowrey, working as private citizens, recently conducted a study of cigarette pollution. They showed that, because Americans spend about 90 per cent of their time indoors, and because the ability of smokers to produce their exhaust overwhelms most ventilation systems, the major source of air pollution for non-smokers frequently is cigarette smoke. A typical room where smoking takes place is more polluted with inhalable (and toxic) particles than a car riding down a busy commuter highway. It appears that nonsmokers who must work around smokers routinely suffer from gross violations of the national air-quality standards.

So the victims of smoking are not just smokers, their widows, and orphans. The 620 billion cigarettes smoked every year in the United States reach well beyond the one third of the adult population which chooses to smoke.

Here is another mystery: a large majority of smokers "choose" to smoke with some discontent, and most try at one time or another to give it up. Yet fewer than a quarter of those who try — perhaps a fifth — succeed in quitting for good.

The "Refinement" of Tobacco

Tobacco was carried from the New to the Old World at the beginning of the sixteenth century. From that time history records that it was snuffed, chewed, and smoked in pipes, cigars, and even a primitive cigarette. But never before the modern cigarette was produced did tobacco saturate the potential market with anything quite like its success in the past century. Indeed, tobacco has always been relatively easy to grow, and as early as the seventeenth century supplies often exceeded demand. So what happened a hundred years ago to increase the demand so fantastically? Why have modern cigarettes been the tobacco product that produced such a triumphant, if grisly, record? Historians have attributed the phenomenon to a variety of seemingly obvious factors: taste, mildness, aroma, resourceful marketing financed by the powerful tobacco trust, convenience, the invention of the strikable match, fashion (beginning with a vogue for Turkish brands after the Crimean War), the pace of modern life, the low cost of the machine-made product, *tempora, mores*. . . .

What has not been recognized is that Duke's cigarettes presented tobacco in a radically new

form. As a result, widespread and severe addiction to nicotine first became possible. J. B. Duke captured the market precisely at a time when changes in tobacco technology achieved this conversion, and although he was undoubtedly an astute and ruthless businessman, he would never have met the same success if he had tried to market dried spinach — or even the more old-fashioned type of tobacco.

In brief, what happened was this. John Rolfe (Pocahontas' husband), dismayed with the rough quality of smoke from the tobacco growing wild near Jamestown, had imported the seed of a milder-smoking species from one of the Spanish colonies about 1612. The new plant, especially when grown on sandy, relatively sterile soil, yielded an exceedingly mild leaf. Within six years, another Jamestown colonist improved the method of curing by hanging his leaves rather than piling them on the ground. Treated this way, the leaf turned a bright yellow and gave off an even milder smoke. Production of this type of tobacco grew very rapidly and became the foundation of prosperity in the region. Hence the tobacco leaves crowning the columns on the Senate wing of the national Capitol.

Thereafter demand for the so-called bright leaf was substantial, but it increased relatively little until early in the nineteenth century, when European tastes, influenced by exposure to mild Turkish tobaccos, began to favor it. Cultivation then expanded into southern Virginia and North Carolina, where the low nitrogen content of the soil produced growth of the bright leaf.

Once again innovations in curing were needed, both to reduce the cost of production and to improve the quality of the leaf. Curing had been controlled mostly through the use of tight barns with open fires in them. A shift from wood to charcoal curing made the tobacco even more pleasant to smoke than before, though it could not be comfortably inhaled. The crucial innovation, developed as early as 1810, was to heat the barns with flues running through them, so that the tobacco was not directly exposed to wood or charcoal smoke.

Technical difficulties limited use of the flue until after the Civil War. When they were overcome, flue-curing spread rapidly throughout the region where bright tobacco was grown until the method prevailed in the late 1870s, just before J. B. Duke began to manufacture cigarettes.

Flue-curing made the tobacco's smoke even milder, and it removed the last barrier to inhalation. Indeed, it made inhalation necessary.

The reason why flue-curing made such a difference was that it produced a mildly acid, instead of alkaline, smoke. Nicotine is efficiently absorbed only from an alkaline medium. Fire-cured tobaccos — those used for snuff, plug, and pipe tobaccos, and even for cigarettes, by and large, before the 1870s — are alkaline and thus permit nicotine to be absorbed through the lining of the mouth or nose. Chewing, snuffing, and pipe or cigar smoking are all conducive to a gradual intake of nicotine without inhaling. The alkalinity of smoke from this sort of tobacco also makes it unpleasant for all but the hardiest smokers to inhale, even when it originates from the bright leaf.

The smoke of modern cigarettes, by contrast, comes from flue-cured tobacco and is slightly acid. Not only can it be inhaled, it must be for any significant amount of nicotine to be absorbed, because only in the lungs is the smoke converted from acid to alkaline. The nicotine is, moreover, absorbed in a series of very concentrated doses, each of which reaches the brain about seven seconds after it enters the lungs (ie, about twice as fast as heroin traveling from the forearm).

The Addictive Nature of Nicotine

As recently as the 1964 report to the surgeon general, it was not clear that almost all cigarette smoking is based upon a profound addiction to nicotine, partly because the characteristics of the addiction had not been worked out and partly because nicotine addiction is somewhat different from other types of drug dependence. But in the last few years, the British psychiatrist M. A. Hamilton Russell of the Maudsley Hospital in London, the American psychologist Stanley Schachter of Columbia University, and other investigators have gone a long way toward clarifying the nature of cigarette addiction.

In general, the non-inhaling smoker of pipes or cigars obtains a low-to-moderate blood level of nicotine through a process of gradual absorption. Although the nicotine is an essential component of the pleasure, the dose is administered along with a host of cosy associations and little bits of comforting business. Provided that some nicotine is absorbed, the routine is thoroughly habit-forming, but not often intensely addictive.

The inhaler of tobacco smoke, almost by definition a user of cigarettes, has a different experience. He or she draws smoke onto the enormous absorbing surface of the lung, which neutralizes the acidity sufficiently to permit absorption to occur. In this process, an entire cross-section of

the bloodstream is loaded with nicotine. It travels to the heart and then to the brain without dilution. By contrast, a drug shot into a vein in the forearm is mixed with blood returning from other veins as it approaches the heart, and so is diluted before it reaches the brain.

As Russell points out, it appears to be these periodic jolts of nicotine that the cigarette smoker is after. Each puff is followed by a transitory, but very high, level of nicotine in the blood. The nicotine transferred to the brain after one of these peaks reaches higher levels than when the same quantity is administered by a more gradual method.

The basis of the addiction, then is a requirement for intermittent, tiny “highs.” But because the nicotine begins to have unpleasant side effects as it builds up in the blood, the smoker must also guard against overdose. A given individual’s pattern of smoking is a compromise between the frequency of rewards that he or she can achieve and the need to keep the average level of nicotine in the blood below a tolerable maximum. Even so, the whole system is pretty efficient: puff by puff, it allows the smoker to receive seventy to a hundred thousand nicotine “rewards” every year, plus whatever other comforts are derived from the process and ritual of smoking.

Like all true addicts, cigarette smokers suffer psychologically from withdrawal. During abstinence, their pattern of brainwaves changes, levels of certain hormones diminish, and heart rate and blood pressure fall. They gain weight. They complain of nausea, headache, constipation, or diarrhea. They are irritable. Inability to concentrate is perhaps the most common subjective complaint, and it is accompanied by objective deficits in performance on tasks that require vigilance or tracking.

Schachter has shown the chronic smokers are not made less irritable than normal people by their habit — rather, they are protected from becoming more irritable. In one of his more naturalistic experiments, subjects sat in a laboratory decorated to look like a living room in Queens and listened to recordings of airplanes passing overhead. Allowed to smoke at will, they responded just like nonsmokers to the roaring and screeching. But kept from smoking, or given low-nicotine cigarettes, they became much more annoyed than before, and more so than nonsmokers. Schachter concluded from this experiment, and others using such irritants as electric shock, that chronic cigarette smokers continue their habit not for any pleasure it adds to their

lives (though they may rationalize that they do) but to prevent the unpleasantness of withdrawal.

Other research gives some measure of the potency of the cigarette habit. A British government study revealed that a youngster who smoked more than one cigarette has only a fifteen per cent chance of remaining a nonsmoker. When, after years of smoking, people try to kick the habit, they suffer from symptoms that persist for at least a couple of weeks, and some of their afflictions, including drowsiness, get worse in the second week of abstinence. For most former smokers, the craving persists at least a month, and for about a fifth of them it continues five to nine years after they quit. There is some indication that women find abstinence more difficult than men.

The Marketing of Cigarettes

To help sell his cigarettes, J. B. Duke, who never smoked them, used a myriad of clever advertising techniques, of which the collectable picture card was one of the mainstays. Naturally, the principal collectors of such cards were young boys. Then, as today, adolescents were in fact the primary target for the industry's promotional gimmicks. Most people become smokers before they are twenty. The point of the enormous advertising budgets of cigarette companies is to reach this market. As a consequence, half of all American billboards push cigarettes and five of the nation's ten most heavily advertised products are cigarette brands.

A constant theme in cigarette advertising from very early on was that these "coffin tacks" were somehow conducive to good health. The adjective "mild" was ubiquitous, and many slogans were much more explicit: "Not a cough in a carload," "More doctors smoke Camels," and even

"Reach for a Lucky instead of a sweet." Today, paradoxically, the healthiness of cigarettes has become the dominant theme of advertising in that "low tar" brands have grown from ten per cent of the American market to 43 per cent in the past five years. But there is something even more deceptive in this situation than the obvious deception: low-tar cigarettes are also low in nicotine. Therefore, to prevent withdrawal, they must, it appears, be smoked more heavily than brands higher in nicotine. The low-tar smoker can be expected to buy and smoke more cigarettes (and incidentally put more smoke into everyone's environment).

The cigarette industry is based on the principle of purveying perhaps the most addicting of known substances to minors. Until this fact is recognized, no intelligent policy is possible. Current efforts are laughable and they have done very little to curtail a \$17 billion, and still very profitable, industry. But it must also be recognized that to end cigarette addiction would be an economic disaster for the United States as a whole, including nonsmokers. A study conducted in Britain, as summarized by John Cairns, now of the Harvard School of Public Health, concluded that short-term economic gains from wiping out cigarette smoking (and thus increasing productivity and diminishing hospital costs) would disappear in 20 years because of the increasing number of old people, who would require social security payments and health care. The losses in the United States, which exports tobacco rather than importing it as the United Kingdom does, would, no doubt, be astronomically greater.

So, Pro Bono Publico may not have been such a bad name after all.

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Computed Tomography in the Management of Head and Neck Cancers

New Application Expected to Play an Invaluable Role in the Early Detection, Management, and Follow-up of Such Tumors

William D. Torres, MD
Leonard J. Triedman, MD

Computed tomography (CT) has been used extensively in the evaluation of intracranial and intra-abdominal pathology for many years. Only recently, however, have CT scans encompassed the study of extracranial head and neck masses.¹ While the role of CT scanning in the evaluation and management of head and neck neoplasms is in its infancy, significant efforts have been made to demonstrate its usefulness in the identification of head and neck tumors, of both primary and metastatic origin. Recently CT scans have been used effectively in the evaluation of patients with laryngeal carcinomas,^{2, 3} laryngeal trauma,⁴ lesions of the parotid gland,^{5, 6} and tumors of the paranasal sinus,⁷ pyriform sinus,⁸ and parapharyngeal space.⁹ They have also been used to study the fixed vocal cord,¹⁰ cervical lymph nodes,¹¹ and other neck masses.¹² In addition, CT scanning has demonstrated many distinct advantages over laryngography in the evaluation of laryngeal lesions.¹³ Although the CT anatomy of the larynx was delineated several years ago,^{3, 14} a detailed CT anatomy of the infrahyoid neck^{15, 16} and floor of the mouth¹⁷ was described only within the past year.

These recent efforts to study the detailed CT

anatomy of the extracranial head and neck regions may in the very near future significantly affect the medical and surgical management of patients with head and neck cancer. To accomplish this objective, however, surgeons and radiation and medical oncologists must work closely with radiologists in obtaining and interpreting CT scans of head and neck tumors. We believe that diligent use of this device will have a positive effect on the earlier diagnosis, appropriate treatment, and subsequent prognosis of these lesions.

The CT scan, for example, can provide important diagnostic information on the status of the midline tongue, which is crucial if a partial glossectomy is to be performed. In cases where metastatic nodes are found in the neck with an unknown primary source, CT scans can be invaluable in localizing the lesion in areas which are difficult to visualize through clinical examination. Examples include the base of the tongue, pyriform sinus, and the posterior nasopharynx. In addition to the problem of poor direct visualization, limited accessibility to palpation presents additional difficulties. Even those lesions within reach of the examining finger (eg, base of tongue, tonsil) frequently allow only a limited evaluation by palpation without excessive patient discomfort.

Information obtained by CT scanning may play an important role in determining treatment plans. As an example, CT evidence of extranodal extension of tumor, as with adherence to the carotid artery, brachial plexus, or base of the skull, may represent a relative or absolute contraindication to radical surgery. Further, the size and extent of the lesion as determined by the CT scan may encourage use of preoperative chemotherapy or radiotherapy to shrink the lesion and permit a clearer dissection of the tumor. The CT scan may also be helpful in directing the surgeon

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to the side most likely to need radical neck dissection in cases of midline disease, or in identifying bilateral spread in the cervical lymph nodes. Finally, a negative CT scan in a carcinoma confirmed by biopsy may suggest microscopic lymphatic disease which may be controlled suitably with local radiation.

As a prognostic tool, the use of CT scans to follow head and neck cancer patients for recur-



Fig 1. Initial CT scan with contrast at level of hyoid bone (H). Bulky mass compressing the supraglottic space (arrows) with displacement of the right pyriform sinus (RPS) toward the midline. Left pyriform sinus (LPS) is shown in its normal location (SCM — sternocleidomastoid muscle).

rent tumors or secondary primary lesions in inaccessible locations may be more sensitive than physical examination alone. In these situations, lesions may develop insidiously and extensively before their nodal spread alerts the physician to the presence of either recurrent disease or disease which is not responding to medical management.

Additional prospective studies obviously are needed to demonstrate more clearly the sensitivity and specificity of a test as costly as the CT scan for diagnosing and following head and neck cancers. In any case, the following brief case presentations will illustrate how this diagnostic tool can aid physicians in caring for such patients.

Case Reports

Case 1: J.K., a 68-year-old white male with a history of moderate smoking and drinking presented three years ago with a history of a tender, nonhealing lesion in the left floor of the mouth of

eight weeks' duration. Two weeks prior to his first admission, a biopsy was positive for carcinoma. The physical examination on admission in May 1980 revealed a 3 cm mass in the left floor of the mouth, no adenopathy, and no other lesions. As this patient was treated before routine use of CT scans of the head and neck had been instituted, his work-up included only the routine studies for metastatic disease. These were positive for a solitary nodule in the left upper lobe detected by lung tomography. It was decided to delay further studies until after the primary oral lesion was excised, since the lung tumor was solitary and well-circumscribed, and the patient had no pulmonary symptoms. A left floor of the mouth re-

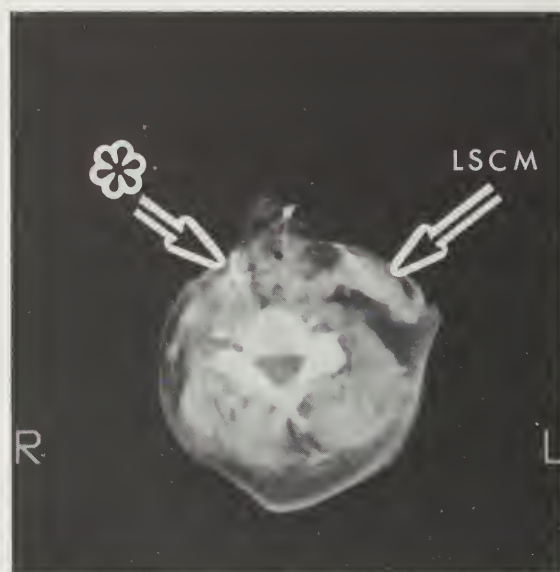


Fig 2. Postoperative CT with contrast at approximately the same level as the previous scan, no evidence of residual tumor, absence of hyoid, larynx, and right sternocleidomastoid muscle. Note star artifact(*) from metallic surgical clips (LSCM — left sternocleidomastoid muscle).

section, marginal resection of the mandible, left suprahyoid neck dissection, and repair of the floor of the mouth with a nasolabial flap were performed. Pathological examination revealed epidermoid carcinoma, Grade II, of oral mucosa with invasion of submucosa. There was no bone invasion, and the margins and all lymph nodes in the specimen were free of tumor.

The patient was discharged and readmitted two weeks later for further work-up of the lung nodule which led to a left upper lobectomy for adenocarcinoma.

He did well until two and one-half years later when he was readmitted in November 1982 with paralysis of the right vocal cord. Biopsy of the

epiglottis was positive for epidermoid carcinoma, Grade II. A CT scan revealed a large right-sided laryngeal lesion with supra- and subglottic extension (Fig 1). Laryngectomy, right radical neck dissection, and tracheostomy were performed. Pathological examination showed a moderately differentiated squamous cell carcinoma of the right pyriform sinus which extended to the right vocal cord and across the midline posteriorly. Metastatic, moderately differentiated squamous cell carcinoma replaced three lymph nodes in the superior cervical chain, while reactive hyperplasia of other neck nodes was reported. Since surgery, the patient has received radiation therapy. Figure 2 shows a repeat CT scan done three months after surgery and radiation therapy. It reveals bilateral surgical changes and no evidence of residual tumor.

Case 2: I.C., a 57-year-old white female with a history of heavy alcohol and cigarette abuse presented in June 1982 with a four-month history of sore throat and swelling of her right neck. A biopsy of the right tonsil revealed poorly differentiated squamous cell carcinoma. A work-up for distant metastases was negative, although she was diagnosed as having cirrhosis of the liver. The CT scan of the neck revealed a carcinoma of the right tonsil with carotid sheath and major lymph node involvement extending down into the neck (Figs 3 and 4).

Because of the extent of invasion of this patient's lesion, a less radical surgical approach was used. Management began in early August 1982 with two courses of intravenous chemotherapy with methotrexate and cisplatin. Two weeks later she was admitted and found to have a marked diminution in size of both the mass in the right neck and the primary lesion in the right tonsil. Physical examination at that time revealed a movable 4 cm mass in the right midjugular chain.

In August 1982, a right radical neck dissection and ligation of the external carotid artery were carried out and a totally-implantable, continuous intravascular drug infusion device, the Infusaid® pump, was inserted.¹⁸⁻²⁰ Since arterial distribution of the Infusaid® pump was demonstrated intraoperatively to encompass the right tonsillar mass, plans were made to use chemotherapy to manage the primary tumor of the tonsil. The specimen from the radical neck dissection revealed metastatic, undifferentiated carcinoma in one lymph node surrounding the internal jugular vein. Twenty-eight other lymph nodes and fragments of the submandibular and parotid

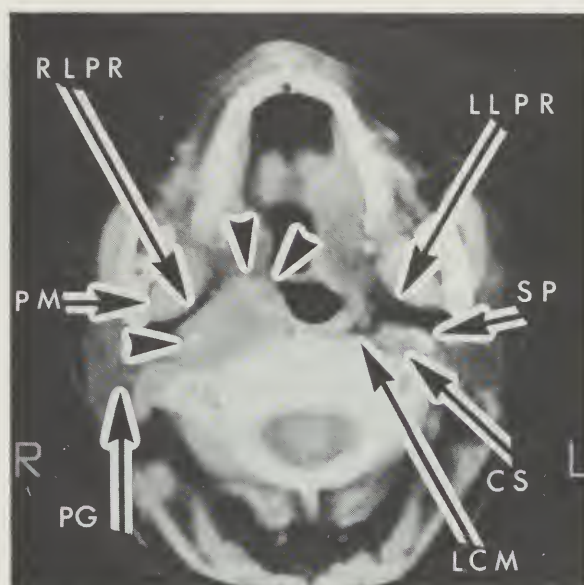


Fig 3. Large tumor in region of right tonsil (arrows). Section demonstrates compression of the right lateral pharyngeal recess (RLPR). Note normal left lateral pharyngeal recess (LLPR). Tumor extends into the region of the carotid sheath (CS). (PM — Pterygoid muscle, PG — parotid gland, LCM — longus coli muscle, SP — styloid process)

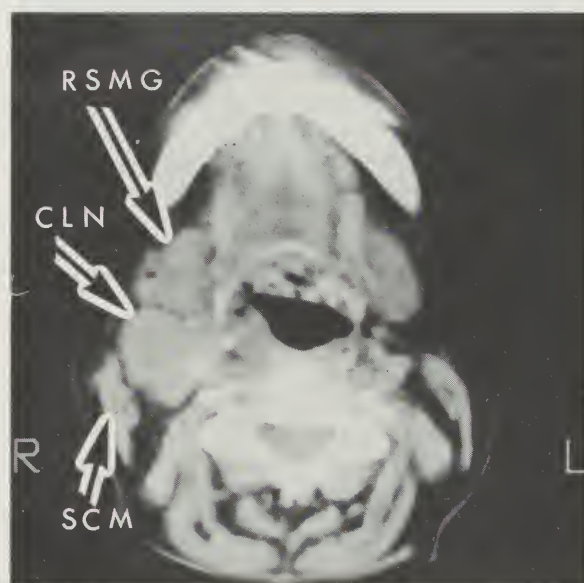


Fig 4. CT scan at lower level in the neck. Enlarged cervical lymph node (CLN) posterior to the right submandibular gland (RSMG) and medial to the sternocleidomastoid muscle (SCM).

glands were free of disease. A fibrous nodule taken off the carotid artery sheath was examined and found to be free of cancer. Since September 1982, the patient has had continuous intra-arterial pump infusion of floxuridine (FUDR) in addition to cisplatin, methotrexate, and bleomycin bolus infusions through the direct infusion

side port of the Infusaid® pump.

The CT scan of the neck carried out in February 1983, five months after surgery and pump insertion, is shown in Figure 5. It reveals evidence of considerable diminution in size of the mass noted in the previous study. Chemotherapy was discontinued in March 1983 when the patient developed right facial weakness and swelling. A

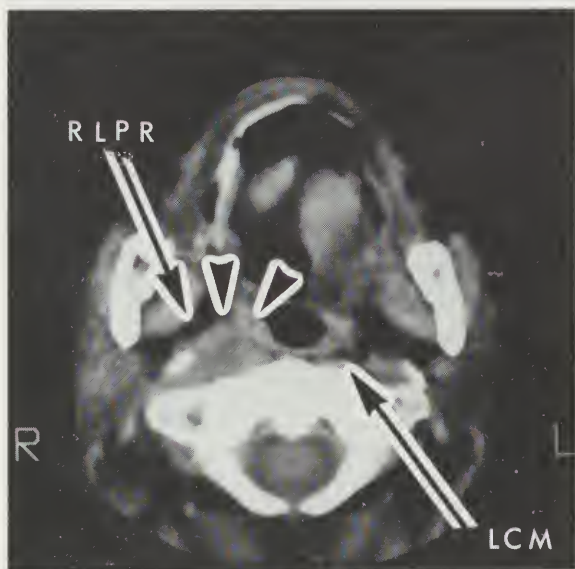


Fig 5. CT section demonstrated significant reduction in the size of the tumor (arrows). Right lateral pharyngeal recess (RLPR) has increased in size. Continued loss of definition of the longus coli muscle (LCM).

repeat CT scan nearly two months later demonstrated an increase in the size of the tumor with vascular bundle involvement (Fig 6). The patient is now receiving radiation therapy.

Discussion

The use of CT scans in the management of head and neck cancer patients is still in its early stages of development. Recent reports on the detailed CT anatomy of the extracranial head and neck regions will contribute significantly to the sensitivity of the CT scan as a diagnostic, therapeutic, and prognostic tool for the evaluation of head and neck lesions.

The cases presented in this study are examples of some of the ways in which CT scans can improve the management of patients with head and neck malignancies. In Case 1, a baseline CT scan when the patient initially presented with the lesion on the left floor of the mouth possibly would have been helpful in detecting early spread of the disease across the midline. On the other hand, there is no doubt that the CT scan was invaluable at the time of his second presentation two and

one-half years later. At this time, it revealed the true extension of the disease and directed the surgeon to the appropriate radical procedure of total laryngectomy and right radical neck dissection. A repeat CT scan several months later was also helpful in assessing potential recurrence of disease. This scan showed no residual disease or adenopathy in the contralateral neck region. However, it also illustrates the unfortunate artifact produced by multiple metallic clips. The use of nonmetallic surgical clips in the future may improve significantly the reliability of CT scans as prognostic tools in following patients for recurrence.

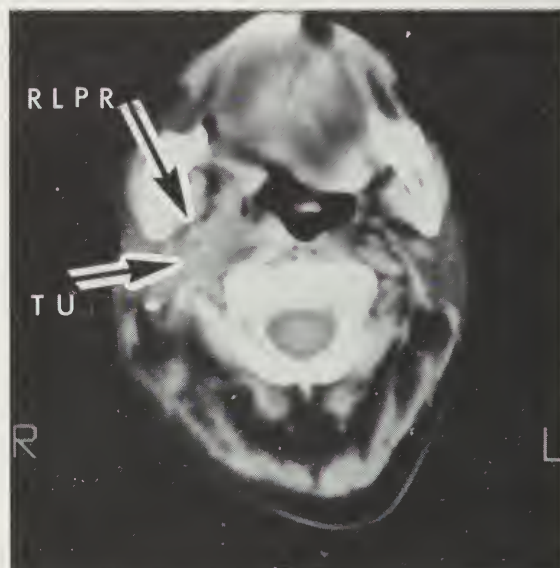


Fig 6. Repeat scan three months later (two months after cessation of chemotherapy) demonstrates a significant increase in tumor bulk (TU). Note compression of the right lateral pharyngeal recess (RLPR).

In Case 2, a preoperative CT scan was again invaluable in demonstrating the extent of invasion of the disease, especially the primary tonsillar lesion. The extent of the angioinvasion of the primary lesion and lymphatic spread of disease into the neck, as determined by CT scanning, was a helpful guide in determining appropriate therapy. Because these findings were relative contraindications to extensive radical surgery, the patient received preoperative chemotherapy followed by a radical neck dissection and insertion of the Infusaid® infusion pump, an advanced model continuous intravascular drug infusion device. A repeat CT scan was quite helpful in following the status of the residual tumor. Considerable reduction in tumor size during therapy with the Infusaid® pump was readily demonstrated by the CT scan. Finally, a third scan, taken two months

after the discontinuation of pump chemotherapy, showed an increase in tumor growth and alerted the physician to the need for alternative therapy.

Conclusion

The sensitivity and specificity of the CT scanner

in the evaluation of extracranial head and neck tumors requires further study. We believe, however, that its use in the diagnosis, therapeutic management, and follow-up of head and neck cancer patients is invaluable. Its use in delineating the complicated anatomy of the head and neck will undoubtedly contribute to the better care of these patients.

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SPECIAL REPORT

Breach of Contract and the Yellow Pages

Nancy L. Watson

The telephone company's business directory, commonly known as the Yellow Pages, is one source patients use to find a physician. Physicians contract with the telephone company to have their names and specialties listed in the Yellow Pages. They pay the telephone company for this service. If through some error the telephone company omits a listing or makes a mistake in a listing, a physician may be able to recover for breach of contract. In this type of suit, however, the physician may have trouble proving damages.

Errors in Listings

One recent suit in Florida (*Southern Bell Telephone and Telegraph Company v Kaminester*, 400 So 2d 304, FL, 1981) was filed by a dermatologist's professional corporation because his address was incorrectly listed in the Yellow Pages. The dermatologist's name, specialty, and telephone number were, however, listed correctly. The jury awarded \$92,929 in damages. On appeal, the court reversed the decision. The appellate court found that the trial court had erred in admitting patient interview sheets into evidence. Those sheets were used by the corporation's accountant to calculate the number of patients who would have been referred if the directory had been correct. The calculated 144 lost patients were assigned the same percentage of disease categories as the previous year's referrals.

Lost profits were based on the projected treatments and length of treatment for each "lost" patient. The trial judge had granted a protective order preventing the telephone company from obtaining copies of the patient interview sheets

on grounds of physician-patient privilege. The judge later reversed himself and granted permission to the telephone company to view the sheets the evening after the first day of trial. The appellate court said that the court erred in not granting the telephone company sufficient time to defend against the reliability of the sheets.

A second reversible error was the trial court's failure to deduct the compensation paid to the dermatologist in computing net profits, the appellate court said. The general rule in computing net profits of a corporation is to deduct the compensation of its officers and employees, and there was no reason to alter the rule for a professional corporation, the court concluded.

In another breach of contract suit (*Garrison v Pacific Northwest Bell*, 608 P 2d 1206, OR, 1980), a psychiatrist sued because the Yellow Pages erroneously listed her as an osteopath. The psychiatrist had an MD degree and specialized in child psychiatry. She ordered directory listings in the Yellow Pages and White Pages. When the 1977 directories were issued, the physician was incorrectly listed in the White Pages as an osteopath and her Yellow Pages listing appeared in the section in which osteopaths were listed. The physician sought \$55,000 treble damages, and \$5,000 in legal fees. A trial court granted summary judgment for the telephone company, and the physician appealed.

The appellate court affirmed the decision. The court found that the physician did not have a private right of action under the statute governing the telephone company. This statute provided that every public utility was required to furnish adequate service. The physician contended that the telephone company failed to furnish her adequate services in violation of the statute and that this gave rise to a private cause of action. The court disagreed.

The court also disagreed with the physician's contention that the Commissioner's attempt through rulemaking to limit recovery for direc-

Nancy L. Watson is Executive Editor of The Citation, published by the American Medical Association, Chicago. This is one of a series of papers prepared by the AMA for publication in state medical journals on subjects of interest to physicians. They will appear in no other publications.

tory errors exceeded his statutory authority. The Public Utility Commissioner's authorization to limit the telephone company's liability for incorrect listings was at the core of his authority to set adequate service levels and establish reasonable rates, the court said. The Commissioner's regulation limiting the telephone company's liability was reasonable since it did not shelter the company from the liability for gross negligence, the court said.

So long as the telephone company trained its employees to recognize that there was a difference between the categories of physicians, the company's failure to train them in the details of physicians' training and job functions was not gross negligence, the court added.

Omissions of Listings

A Louisiana chiropractor was awarded \$1,500 in damages in his suit (*Butcher v South Central Bell Telephone Company*, 398 So 2d 197, LA, 1981) against the telephone company for omission of a listing in the Yellow Pages. The omitted listing was one of ten the chiropractor had contracted with the telephone company to include in its 1978 directory. The trial court found that the telephone company had breached its contract, and the appellate court affirmed the decision. The appellate court disagreed with the chiropractor that his award should be increased to \$26,000.

Liability Limited by Contract

An Ohio decision (*Berjian v Ohio Bell Telephone Company*, 375 NE 2d 410, OH, 1978) discussed a liability clause in the directory advertising agreement.

An osteopathic surgeon sought a special listing in the Yellow Pages of two telephone directories for 1972, 1973, and 1974. His name was listed properly in one directory, but not in the other. In the 1972-73 directory, his name was not listed at all in the Yellow Pages. In the 1973-1974 directory, his name was improperly listed in the section "Physicians & Surgeons — MD." However, his name was properly listed in the White Pages of both directories.

The osteopath filed suit against the telephone company for negligence and breach of contract. A trial court found in favor of the telephone company on the basis of a limitation of liability clause in the directory advertising agreement. An appellate court reversed, holding that the limitation clause was unconscionable.

Reversing the appellate court's decision, the Supreme Court said that the clause limiting the

telephone company's liability to the cost of the listing was enforceable. It was not void as against public policy, nor was there any willful or wanton misconduct by the telephone company for which it would be liable, the court said.

The telephone company was also held liable in a Tennessee suit (*Affiliated Professional Services v South Central Bell Telephone Company*, 606 SW 2d 671, TN, 1980) by an association of psychologists and social workers. The liability was limited to the cost of the listing, however. The association alleged negligence and breach of contract when its listing was omitted from the Yellow Pages.

The telephone company relied on language in the printed contract limiting its liability for errors or omissions to the cost of the advertisement. Both the trial court and the appellate court upheld the exculpatory clause, and the Supreme Court agreed. The clause was not contrary to public policy nor prohibited by a statute in the state. Other state courts have also upheld the validity of the clause, the court said.

Another suit (*Southwestern Bell Telephone Company v Wilks*, 601 SW 2d 855, AR, 1980) in which liability was limited by a contract was decided by the Arkansas Supreme Court. In this case, an optometrist sued the telephone company because his name was omitted from the "Optometrists — OD" section of the Yellow Pages. Although his home and business numbers were listed in the White Pages, there was no reference to his profession. Seeking \$10,000 for past and prospective business lost because of the omissions, the optometrist contended that he had lost patients and income to the optometrists who were listed in the Yellow Pages.

The company admitted the omission. However, it contended that the optometrist could only recover damages limited to the cost of his business telephone service for the one-year period covered by the directory, which was \$169.80. The court found that the limit violated a section of the state constitution providing that no law should limit the amount to be recovered for injuries to persons or property. The jury awarded the optometrist a judgment of \$500.

On appeal, the court said that the telephone company, as a public utility, had to file the terms and conditions of its basic service contract with the Public Service Commission, which determined whether they were reasonable and in the public interest. The Commission had accepted the terms and conditions, limiting liability for directory errors to the amount paid for service during the period covered by the directory.

The appellate court disagreed with the trial court finding that the type of injury sustained by the optometrist, damage to his earnings from his practice, was not the type of injury contemplated by the constitution. The court felt that injuries to persons or property meant physical injuries to the person or physical damage to the property. Reversing the trial court's ruling, the appellate court sent the case back for further proceedings.

Punitive Damages

A Florida physician whose name was omitted from a telephone company's Yellow Pages listing was entitled to have a jury consider the question of punitive damages (*Hanft v Southern Bell Telephone & Telegraph Company*, 402 So 2d 453, FL, 1981). The physician was omitted from the listing in the gynecology and obstetrics subheading of the physicians' section for two successive years, despite his request for a listing. He brought an action against the telephone company, seeking compensatory and punitive damages.

The company asserted a defense of settlement, compromise, and release, contending that the physician had accepted two years of free telephone service in discharge of his grievance. At the trial, evidence was conflicting as to whether a settlement had been reached or whether the physician had been billed and had paid for the telephone service.

The physician did not proceed with his claim for compensatory damages because he was not able to prove loss of earnings as specifically as

required. He did maintain that he was entitled to at least nominal damages. The trial court directed a verdict for the telephone company on the grounds of compromise and settlement.

On appeal, the telephone company conceded that there was an invasion of the physician's legal rights that would support an award of nominal damages. The court found that the physician was at least entitled to have the jury consider the question of nominal damages and that it was an error to direct a verdict for the telephone company.

Although punitive damages are not usually recoverable for breach of contract, the court said, there is an exception when the breach is attended by gross negligence sufficient to amount to an independent wrongdoing. The court said that gross negligence could be inferred in this case. Reversing the lower court's judgment, the appellate court sent the case back for a new trial.

Generally speaking, it can be concluded from these cases that physicians may have several causes of action against the telephone company if it incorrectly lists them in the Yellow Pages or omits their listings from the Yellow Pages. Whether they claim breach of contract or negligence, the terms of the contract, state regulations, and other factors will affect the amount of damages they are able to recover for lost business.

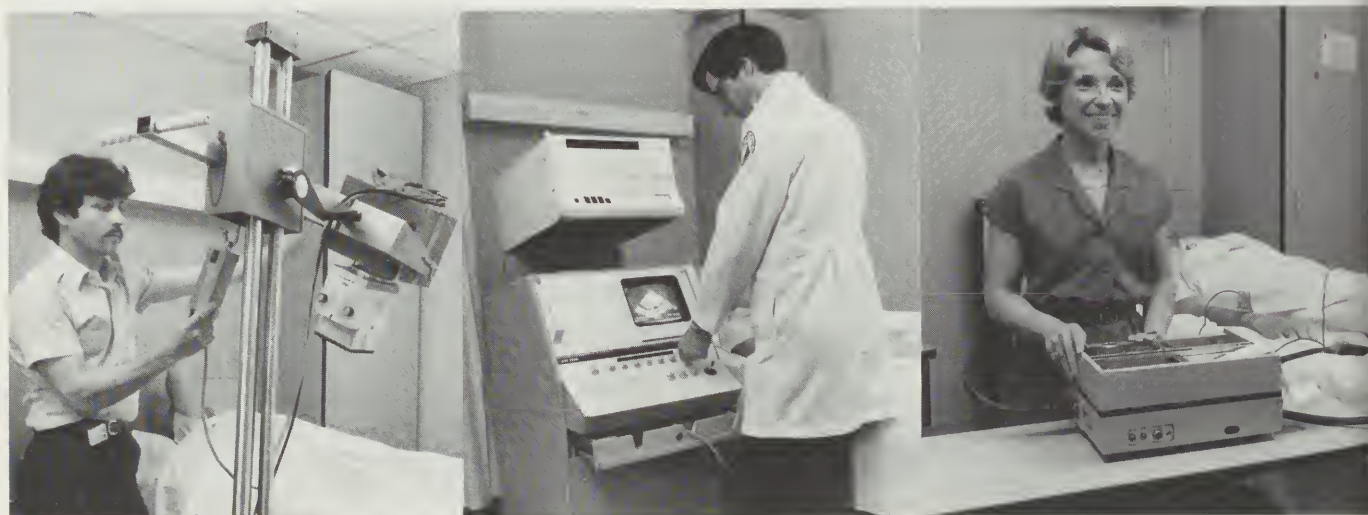
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OFFICIAL PROCEEDINGS

Report of the House of Delegates: March 16, 1983

The **meeting** of the House of Delegates of the Rhode Island Medical Society was held Wednesday, March 16, 1983 in the auditorium of the Rhode Island Medical Society.

The Speaker of the House, Frank G. DeLuca, MD, called the meeting to order at 2:05 pm.

Members present were:

Officers: Melvin D. Hoffman, MD, President; and Charles P. Shoemaker, Jr., MD, President-Elect.

Delegates:

Bristol County Medical Society: Patricia Hyzinski, MD.

Kent County Medical Society: Thomas A. Vest, MD.

Newport County Medical Society: Fouad M. Ayad, MD; Thomas Cahill, MD; and Patrick O'Halloran, MD.

Pawtucket District Medical Society: David Carter, MD; Robert E. Curran, MD; Mohammad A. Khan, MD; Agnes Somlo, MD (for Mary-Elaine Rohr, MD); Peter R. Simon, MD; and Richard Wong, MD.

Washington County Medical Society: Pasquale J. Celestino, MD; and Erwin Siegmund, MD.

Woonsocket District Medical Society: Orazio Basile, MD; John C. Baxter, MD; Augustine Colella, MD; and Paul C. Hessler, MD.

Providence Medical Association: James F. Aiken, MD; Michael S. Barrett, MD; Patrick J. Brannon, MD; Frederic V. Christian, MD; Frances P. Conklin, MD; Carl F. DeLuca, MD; Frank G. DeLuca, MD; Richard D. Frary, MD; Herbert F. Hager, MD; Arnold H. Herman, MD; Harry M. Iannotti, MD; Mark D. Jacobs, MD; Joseph A. Latina, MD; Mary D. Lekas, MD; Richard G. Mignacca, MD; Kenneth B. Nanian, MD; Peter T. Nigri, MD; Herbert Rakatansky, MD; Johannes Virks, MD; Louis Vito, Jr., MD; Elizabeth A. Welch, MD; Conrad W. Wesselhoeft, Jr., MD; Robert J. Westlake, MD; Henry L. Whited, MD; and Elihu Wing, MD.

Immediate Past President: Charles E. Millard, MD.

Speaker of the House: Frank G. DeLuca, MD.

Specialty Society Representatives: Thomas A. Vest, MD, Rhode Island Section, American College of Obstetricians/Gynecologists; Daniel J. Hanson, MD, Rhode Island Radiological Society; Carl F. DeLuca, MD, Rhode Island Chapter, American Academy of Pediatrics; Robert Westlake, MD, Rhode Island District Branch, American Psychiatric Association; Robert McCrae, MD, Rhode Island Otolaryngological Society; and Paul J. M. Healey, MD, Rhode Island Chapter, American College of Surgeons.

Members Ex Officio: John J. Cunningham, MD, Delegate, American Medical Association; Herbert F. Hager, MD, Alternate Delegate, American Medical Association; and William J. MacDonald, MD, Vice-Chairman, Blue Cross/Blue Shield of Rhode Island.

Staff: Norman A. Baxter, PhD, Executive Director; Brian R. Clarke, Assistant Executive Director; Wendy J. Smith, Assistant Executive Director.

Members absent were:

Delegates:

Kent County Medical Society: Edward F. Asprinio, MD;* John C. Osenkowski, MD;* Fred T. Perry, MD; and Oswaldo Velis, MD.

Newport County Medical Society: Edwin J. Henrie, MD.

Washington County Medical Society: John J. Walsh, MD.*

Providence Medical Association: William M. Colaiace, MD; Louis M. Damiani, Jr., MD; Bertram A. Flaxman, MD;* Joseph R. Gaeta, MD; Ronald M. Gilman, MD; Donald G. Kaufman, MD; Julius C. Migliori, MD; Kenneth G. Knowles, MD;* Elliot Perlman, MD;* Michael W. Prior, MD; Michael A. Rocchio, MD; Rajnikant K. Shah, MD;* S. Frederick Slafsky, MD;* Stanley J. Stutz, MD;* Albert F. Tetreault, MD;* and Richard B. Turner, MD.

District Society Presidents: Leonard J. Parker, MD (Bristol); Alfred A. Arcand, MD* (Kent); Elie J. Cohen, MD* (Newport); Robert S. Burroughs, MD (Pawtucket); George N. Cooper, Jr., MD* (Providence); Thomas J. Coughlin, MD

(Washington); and Alban J. LeBlanc, MD (Woonsocket).

Specialty Society Representatives: Henry F. Ize-man, MD, Rhode Island Society of Internal Medicine; Anthony Merlino, MD, Rhode Island Orthopedic Society; Louis Hochheiser, MD, Rhode Island Chapter, American Academy of Family Physicians; Robert Lev, MD, Rhode Island Society of Pathologists, Inc.; Augustine McNamee, MD, Rhode Island Society of Anesthesiologists; Stephen J. D'Amato, MD, Rhode Island Chapter, American College of Emergency Physicians; Arthur B. Kern, MD, Rhode Island Dermatological Society; Guy A. Settipane, MD, Rhode Island Society of Allergy; Robert L. Bahr, MD, Rhode Island Ophthalmological Society; Frank Schaberg, MD, Providence Surgical Society; Walter Cotter, MD, Rhode Island Society of Neurosurgery; Ian B. Tyson, MD, Rhode Island Society of Nuclear Medicine; Robert Baute, MD, Rhode Island Thoracic Society; Jorge Benavides, MD, Rhode Island Thoracic and Cardiovascular Society; and Guy Geffroy, MD, Rhode Island Neurological Society.

Vice-Speaker of the House: Peter D. T. Clarisse, MD.

Ex-officio: Joseph E. Cannon, MD, Director, Rhode Island Department of Health; and Seebert J. Goldowsky, MD,* Editor-in-Chief, *Rhode Island Medical Journal*.

Approval of Minutes

Action: It was moved, seconded, and carried to approve the minutes of the January 19, 1983 regular meeting of the House of Delegates as distributed.

Report of the Secretary

In the absence of Dr Milton W. Hamolsky, Dr Melvin D. Hoffman highlighted the following items in the Secretary's written report:

Director of the Department of Health: The Council endorsed the nomination of Dr H. Denman Scott as Director of the Rhode Island Department of Health. Dr Scott will succeed Dr Joseph E. Cannon who announced plans to retire in 1984. Dr Scott currently is in the private practice of internal medicine in Providence; his background includes experience at the Centers for Disease Control and SEARCH.

In response to questions from the floor, Dr Hoffman discussed the Society's role in the selection process. It was emphasized that the Director

serves at the pleasure of the governor and that the Society officially does not participate in the selection process. Governor J. Joseph Garrahy responded affirmatively to a request by RIMS officers to provide input concerning candidates for the post.

Foundation: The Council authorized establishment of the Rhode Island Medical Society Foundation. The foundation, which is a separate corporate entity, has applied for Section 501(c)(3) classification under the Internal Revenue Code. This exemption will permit foundation donors to deduct their contributions on their tax returns.

Action: It was moved, seconded, and carried to approve the Report of the Secretary as submitted.

Report of the Treasurer

Dr Norman Baxter, Executive Director, highlighted the following items from the Treasurer's written report in the absence of Dr Kenneth E. Liffmann: (1) The unaudited financial statement for the year ended December 31, 1982 shows a total income of \$393,914.13 and total expenses of \$391,626.13. A certified audit will be performed in the near future; and (2) In response to a question from the floor, Dr Baxter said that the accounts receivable balance of \$7,400 in the benevolence fund represented loans to two members.

Action: It was moved, seconded, and carried to approve the Report of the Treasurer as submitted.

Report of the President

Dr Melvin D. Hoffman reviewed the following items from the written Report of the President:

AMA Annual Meeting: Dr Hoffman will ask for Council authorization to send the President, President-Elect, Delegate, Alternate Delegate, and Executive Director to the AMA Annual Meeting, June 19-23, 1983, Chicago.

Joint Underwriting Association Actuary: Mr E. James Stergiou was appointed as the Society's actuary to represent RIMS at the Joint Underwriting Association rate increase hearings scheduled later this summer. Mr Stergiou previously represented the Attorney General's office during the 1981 rate increase hearings. At the February Council meeting, Dr Richard Frary, Councilor from the Providence Medical Association, reported on a PMA resolution requesting a membership assessment if additional funds are needed to pay for the actuary.

Health Care Review, Inc: Dr Hoffman reported on his recent meeting with Dr Alton Paull, Presi-

* excused

dent, Health Care Review, Inc (formerly RIPSRO) at which the following items were discussed: (1) Health Care Review, Inc will receive federal funding until September, 1983. The Society opposed pending state legislation which would permit a "tax" on hospital beds to finance review activities after September; (2) Health Care Review, Inc wants responsibility for all medical review activities in the state. In addition to PSRO activities, Medicare, Medicaid, and Blue Cross/Blue Shield of Rhode Island also perform review activities; and (3) Health Care Review, Inc is now marketing its review services to private industry, which has an interest in restraining medical care costs. Dr Hoffman said that Dr Paull will meet with the Council at its April meeting to address these issues further.

RIMS/Brown Liaison Committee: Dr Hoffman noted that the RIMS/Brown Liaison Committee, which has been dormant for a number of years, recently was reactivated. At a joint meeting on January 26, Dr Hoffman solicited Brown's support of efforts to contain medical care costs, the formation of medical students and residents' sections within the Society, and more active participation by Brown in the *Rhode Island Medical Journal*. Dr Hoffman expressed his concern that there is a "long way to go" before an easier relationship with Brown is achieved. During a brief discussion, several delegates noted that many Society members have no connection either directly with the Brown University Program in Medicine or with its affiliated teaching hospitals.

Rhode Island Bar Association: Society officers and staff met with their counterparts from the Rhode Island Bar Association on February 15 to discuss legal determination of death, medical records, medical malpractice panels, interprofessional relationships, and other issues. The bar association officers recommended that a formal liaison be established to deal with such problems as blanket requests for medical records.

It also was noted that the bar association is supporting legislation which would weaken existing patient/physician confidentiality statutes. Several delegates questioned whether psychiatrists are covered by separate confidentiality statutes and also if other physicians are covered when their patients discuss emotional issues. [*Note: Existing confidentiality statutes apply to all physicians regardless of their specialty.*]

Pending Legislation: Dr Hoffman reported on the following bills pending before the Rhode Island General Assembly:

Worker's compensation: S 512, developed by

the Society and the Rhode Island chapter of the AFL-CIO, would eliminate provisions in PL 82-32 which link physician reimbursement for worker's compensation cases to Medicare fee schedules.

Health Care Affordability Act of 1983: This bill, sponsored by Rep Anthony J. Carcieri, would establish a maximum total limit on all hospital capital projects currently reviewed by the Health Services Council. Under the proposal, projects could be approved only if they met or were less than the total limitation. In his March 4 testimony before the House Health, Education, and Welfare Committee, Dr Hoffman said that RIMS supported the concept of a total maximum limit. He noted, however, that a lid on capital expenditures may have long-term implications for the quality of patient care. He also expressed concern about the lack of an arbitration method to resolve differences if Blue Cross/Blue Shield and the Hospital Association of Rhode Island fail to reach agreement on a total limitation.

Limited licensure: Until last year, residents practiced under a limited license which restricted their activities to their assigned hospital. At the 1982 legislative session, Brown University successfully sought legislation which permitted residents to practice in any affiliated teaching hospital. The society supported this legislation at the request of Brown.

However, Dr Hoffman noted the Society's concern about a bill introduced during the current session (H-5705) which would allow limited licenses to be granted to visiting faculty from other states or countries. Under the proposed legislation, a limited license could be renewed annually with no limit on the number of renewals. Delegates expressed the following concerns about this provision: (1) By allowing an unlimited number of limited license renewals, the state, in effect, would be relinquishing its licensure responsibilities; (2) It was noted that although this arrangement could have value for a limited period for visiting faculty, it could be utilized by permanent faculty to avoid examinations leading to full licensure; and (3) In response to a question about reimbursement, Dr William J. MacDonald, Vice-Chairman, Blue Cross/Blue Shield of Rhode Island, noted that physicians-in-training may not submit separate claims for reimbursement since they receive salaries.

Annual Meeting: Dr Hoffman noted the following schedule for the Annual Meeting, Wednesday, May 25, at the Providence Marriott: 4:30 pm — Annual Business Meeting; 5:00 pm — Press

Conference with Dr Frank Jirka, President-Elect, American Medical Association; 6:00 pm — Reception; and 7:00 pm — Dinner, Presidential Address, and Inauguration of New Officers. Members of the House were encouraged to attend.

Chapin Oration: It was reported that Dr Alvan R. Feinstein, Professor of Medicine and Epidemiology, Yale University Medical School, will present the 1983 Charles V. Chapin Oration on Tuesday, June 7, 1983, at the Sheraton-Islander, Newport. The presentation is being made in conjunction with the annual meeting of the New Hampshire Medical Society. A reception and dinner are planned for Tuesday evening at Rosecliff Mansion. All Society members will be invited to attend.

At the conclusion of Dr Hoffman's report, Dr DeLuca noted the many accomplishments of Dr William J. MacDonald who served in the House of Delegates for 24 years as delegate, president, and representative from Blue Cross/Blue Shield of Rhode Island.

WHEREAS, Dr William J. MacDonald faithfully has served the Society as a member of the House of Delegates, as President of the Society, as a representative from Blue Cross/Blue Shield of Rhode Island, and in various other capacities for 24 years; and

WHEREAS, the Rhode Island Medical Society has depended on Dr MacDonald's invaluable guidance and expertise over the years; now therefore be it

RESOLVED, That the House of Delegates formally acknowledge its appreciation of Dr William J. MacDonald; and be it further

RESOLVED, That the Secretary of the Society forward a record of the House's action to Dr MacDonald.

Action: Approved by acclamation.

Recommendation from the Council

At its January 19, 1983 meeting, the House endorsed the concept of a physician directory for consumers subject to the following conditions: (1) that the House retain final approval of the directory's format and contents; (2) that a directory be published at no cost to the Society; (3) that physician participation be voluntary; and (4) that provisions be made for publication of a second edition within 18-24 months.

At its February meeting, the Council approved the contents for a consumer directory (see Table 1). It would be published jointly by the Society, Blue Cross/Blue Shield of Rhode Island, and the Department of Health. The Department of Health later requested that three items be added: (1) date of birth/age; (2) fee for house calls; and (3) accept CHAMPUS.

The following items emerged during the

House's discussion:

Fees: It was noted that consumer groups and the Department of Elderly Affairs believe that information about physician fees would provide a valuable community service. Similar directories published elsewhere in the country include information about physicians' basic charges for initial and follow-up visits. Several delegates expressed concern, however, that inclusion of fee information would encourage patients to select their physicians solely on the basis of fees. They also noted that fees vary widely depending on the physician's specialty, the procedure performed, and the patient's condition.

Physician participation: It was emphasized that physician participation would be entirely voluntary and that respondents would be free to omit any information in their directory listing.

Disclaimer: The directory would include a disclaimer which emphasizes that the information was subject to change and that the Rhode Island Medical Society could not attest the accuracy of its contents.

Table 1. — Physician Directory Proposed
List of Contents

Name
Sex
Office address
Office telephone
Specialty
Subspecialty/interest of practice
Board certification
Medical school and year of graduation
Internship
Residency
Office hours
Hospital affiliations
Practice setting: solo or group
Accepts new patients
Requires appointments
Makes house calls
Will discuss fees with patients
Sees public assistance patients
Accepts Medicare assignment
Fees:
Initial comprehensive office visit, excluding laboratory work
Follow-up office visit, excluding laboratory work
Participation in:
Blue Cross
Ocean State Master Health
Rhode Island Group Health Association
Other: _____
Foreign languages spoken, if any

Action: It was moved and seconded to include fee information under the section beginning with “accepts new patients” and ending with “accepts Medicare assignment.” The categories, “yes,” “no,” and “determined on an individual basis” would be applicable to specific information about fees. The motion was defeated.

Action: It was moved, seconded, and carried to approve the list of contents as proposed by the Council with the following changes: (1) add information about “date of birth/age” and “accepts CHAMPUS”; and (2) delete information about fees.

Report of the Nominating Committee

The Report of the Nominating Committee, chaired by Dr Melvin D. Hoffman, was approved by the Council at its February meeting and submitted to the House for its consideration. The Council recommended approval of the following slate of candidates for 1983-84 and appointments to the Society’s standing committees: President — Dr Charles P. Shoemaker; President-Elect — Dr Paul J. M. Healey; Vice-President — Dr Frank G. DeLuca; Secretary — Dr Milton W. Hamolsky; and Treasurer — Dr Kenneth E. Liffman. Dr DeLuca introduced Drs Shoemaker and Healey to the House of Delegates.

The House discussed the following issues: (1) It was recommended that future nominating committees appoint other Society members to the standing committees rather than carry over members who have served previously. Several delegates noted that the infusion of fresh ideas from new committee members was necessary to maintain the Society’s viability; and (2) Discrepancies exist between the number of committee members authorized by the by-laws and the number of members recommended by the Nominating Committee. It was noted that the proposed by-laws changes considered by the House later during the meeting would resolve some of these discrepancies.

Action: It was moved, seconded, and carried to approve the Report of the Nominating Committee as submitted.

New Business

At the request of Dr Carl DeLuca, the following items were considered out of order before the House’s discussion of the By-laws:

Cable-TV: In response to a question from the floor, Dr Baxter noted that the Department of Health was working with several cable TV companies to use a health channel which must be

offered to the community. Dr Cannon added the Society to a committee which is studying the issue.

House meetings: It was recommended that House meetings be taped and that members be advised of all House meetings to permit them to address their concerns to their delegates. Dr Hoffman noted that the costs of both suggestions would be investigated.

Malpractice insurance: Concern was expressed that some hospitals and departments have established minimal levels of malpractice coverage for their attending staff. These moves have been taken in an effort to lower the hospital’s own potential liability. It was noted that the courts have upheld the hospitals’ requirement that their staffs carry malpractice insurance.

House agendas: Dr Carl DeLuca suggested that a section on “new business” be included in the agenda for all House meetings, preferably before the meeting’s conclusion. (It was an oversight to have this item deleted from the agenda for this meeting.)

By-Laws Committee

The speaker noted that the Council authorized appointment of an Ad Hoc Committee on By-Laws, chaired by Dr Shoemaker, to review the Society’s By-laws and recommend proposed changes to the House of Delegates. The committee’s recommendations dealt with the following considerations: (1) review and adopt, where appropriate, the recommendations of an AMA study of the Society’s internal structure; (2) update the Society’s committee structure; (3) clarify the By-laws to make the Society’s operation more efficient; and (4) provide voting representation to specialty societies approved by the Council and recognized by the House of Delegates. Dr DeLuca asked the House to consider the proposed changes as a whole.

Discussion focused on the following issues:

Frequency of House meetings — The Committee had recommended that the number of House meetings be reduced from three to two annually. Meetings still could be convened at the discretion of the president or at the request of 15 delegates or 50 Society members. Concern was expressed that reducing the number of meetings would weaken the Society’s effectiveness. Several delegates also commented that the House could, in effect, become a “rubber stamp” of the Council’s actions. In this connection, Dr Shoemaker, as President-Elect, assured the House that he would convene as many meetings as necessary to address substantive issues.

Action: It was moved and seconded to retain the existing By-laws regarding the frequency of House meetings (ie, three meetings annually). The motion was defeated.

Action: It was moved, seconded, and carried to amend the By-laws to require that the House of Delegates be convened on a quarterly basis.

Occupational Health Committee — The By-Laws Committee recommended that the Occupational Health Committee be disbanded since many of its functions had been assumed by the Rhode Island Department of Health. The Committee's chairman, Dr John Baxter, and a committee member, Dr Frances Conklin, said that: (1) the committee had not been active in the recent past; and (2) other groups, such as OSHA and a local organization of occupational physicians, were more effective in dealing with occupational health problems. Several delegates expressed concern that dissolution of this committee would have a negative impact in a heavily-industrialized state.

Action: It was moved, seconded, and carried to retain the Occupational Health Committee. The Committee was charged with reviewing the present status of occupational health issues and reporting its recommendations to the House of Delegates.

Impaired Physicians Committee — Dr Herbert Rakatansky recommended that the phrase "substance abuse" in the Committee's proposed charge be replaced with "chemical dependency." He expressed concern that "substance abuse" has pejorative connotations.

Action: It was moved, seconded, and carried to amend the charge of the Impaired Physicians Committee to read as follows: "The Committee

shall be charged with providing aid and assistance to physicians whose professional judgments and capacities are impaired by their difficulties with chemical dependency or other illnesses."

Action: It was moved, seconded, and carried that the House approve the recommendations of the Ad Hoc Committee on By-laws with the two exceptions (frequency of House meetings and Occupational Health Committee) and one change (Impaired Physicians Committee) noted above.

Other Business

Dr Richard Frary introduced a resolution which would place the Society on record as supporting an increase of the legal drinking age to 21 years.

Action: It was moved, seconded, and carried to approve the following resolution:

WHEREAS, the AMA Board of Trustees has voted to support state legislative efforts to raise the drinking age to 21, and it has endorsed a US House of Representatives resolution calling for such action by the states, and

WHEREAS, the State of Rhode Island recently has initiated efforts to eliminate drunk driving in the wake of a shocking and needless death involving teen-age drinking, now therefore be it

RESOLVED, That the Rhode Island Medical Society go on record as favoring return of the legal drinking age to 21 and support legislation to accomplish this objective.

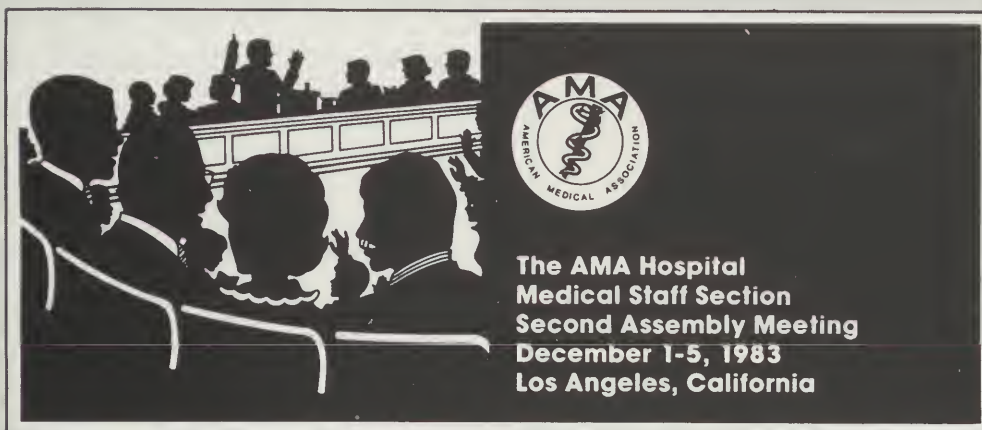
Adjournment

The meeting adjourned at 4:45 pm.

Respectfully submitted,
Norman A. Baxter, PhD
Executive Director
(in the absence of the
Secretary)

AMA Hospital Medical Staff Members:

**Strengthen Your Role
In Decision-Making...
Influence AMA Policy!**



As a Hospital Medical Staff Representative, you should plan now to attend this four-day AMA Hospital Medical Staff Section Assembly Meeting. You will have an opportunity to contribute to the decision-making process and participate in developing policy that will address the issues and concerns of physicians on hospital staffs.

The AMA Hospital Medical Staff Section provides representatives from hospital medical staffs with a forum to discuss common problems and changes in physician-hospital relations, and a direct voice in policies being considered by the American Medical Association.

Group sessions will be conducted on various topics of interest to hospital medical staff members. Scheduled presentations will include: diagnostic related groups (DRGs), credentialing, hospital contractual relations, prospective reimbursements, and overall relationships between physicians and hospitals.

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HAVE YOU HEARD? . . .

According to a detailed paper published by the National Dairy Council, limited data are available on the effects of the aging process on the nutritional needs and status of older persons. This is reflected in the 1980 Recommended Dietary Allowances (RDA), established by the Food and Nutrition Board of the National Academy of Sciences, which include two age groupings, 51-75 years and 76 years or older for energy allowances, but only one age grouping of 51 years or older for all other nutrients. In effect, this would mean that, with the exception of energy requirements, the nutritional needs of a 65-year-old person are the same as those of an 80-year-old.

The National Dairy Council cites mounting evidence to demonstrate that the elderly may have unique requirements for such nutrients as protein, calcium, Vitamin D, thiamin, and folacin. As an example, the findings from several studies support an increase in the minimum RDA for calcium from 800 to 1,000 mg or more in order for the elderly to achieve calcium balance and optimal skeletal health. The paper points out that the elderly are not a homogeneous group, but differ widely in chronological age, health, social and economic status, and living conditions. As a result, findings from major national surveys and studies of limited segments tend to vary widely. While a number of factors can jeopardize the nutritional status of the elderly person, the paper concludes, it appears that chronic diseases and poverty are more likely to contribute to nutritional problems than age-related changes in physiology.

• • •

The Hewlett-Packard Company recently developed a new three-channel patient monitor which permits the instrument to be used in most hospital departments and offers a choice of display among electrocardiograph, blood pressure, temperature, plethysmograph, and auxiliary input. An optional feature of the HP 7835A® patient monitor is the auxiliary input device which presents auxiliary waveforms on the screen complete with labeling and electronically-generated graticule lines. This additional information can be of particular value for patients receiving ventilation therapy. An optional battery pack permits continued monitoring of patients during transport from one hospital department to another.

The incidence of false alarms is reduced by the use of a microprocessor-controlled cardiostat for calculating the heart rate. When a real clinical alarm (eg, asystole) or a technical alarm (eg, poor electrode contact) occurs, the user is alerted immediately by audible and visual signals.

• • •

Despite some family clusters of acquired immune deficiency syndrome (AIDS), no current data suggest that routine close contact in a family household can spread the disease, according to a paper in the September 1983 issue of *American Journal of Diseases of Children*. Doctor Ayre Rubenstein and his colleagues from the Albert Einstein College of Medicine studied more than 100 household contacts of AIDS patients, including siblings. Researchers postulate that the syndrome was transmitted from mother to child, either in utero or shortly after birth. One woman, for example, appeared to be healthy when her 16-month-old child developed the syndrome, but six months later she was found to have AIDS.

• • •

Scary thoughts may be hazardous to your health, suggest researchers from the Medical College of Pennsylvania in the September 1983 issue of *Archives of Internal Medicine*. They report the case of a 21-year-old man who suffered a brief period of cardiac arrest and electrocerebral silence, followed by systemic seizures, after he heard about the tortures endured by religious martyrs. The author claims that strong emotions can induce excessive stimulation of the heart and precipitate sudden death.

• • •

A combination of piperacillin plus vancomycin proved to be an effective regimen as initial therapy against infection in cancer patients with neutropenia, according to Doctor Gerald P. Bodey and his colleagues at the M. D. Anderson Hospital and Tumor Institute, Houston. The findings were reported at the 13th International Congress of Chemotherapy.

Dr. Bodey studied the regimen in 170 febrile episodes suffered by cancer patients. Infection was identified as the cause of fever in 86 cases, 70 per cent of which responded to treatment with piperacillin and vancomycin. The response rate for fevers of unknown origin was 57 per cent.

In a related paper presented at the same Congress, it was reported that the most efficacious antibiotic treatment for serious *Pseudomonas aeru-*

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ginosa infections in patients with compromised immunological responses may be piperacillin combined with an aminoglycoside.

Doctor David E. Johnson and his colleagues at the University of Maryland School of Medicine based their conclusion on results of a study comparing single and combination therapy using piperacillin, ticarcillin, and amikacin in neutropenic rats infected with the gram-negative organism. Various types of antimicrobial combinations have been studied in recent years since infections, especially those involving *Pseudomonas*, remain the most common cause of morbidity and mortality in cancer patients with neutropenia.

It was further reported that the double beta-lactam combination of moxalactam plus piperacillin is as effective as moxalactam and an aminoglycoside for the empiric treatment of patients with febrile granulocytopenic cancer, such as acute leukemia. Doctor Stephen C. Schimpff, University of Maryland Cancer Center, found that his studies supported use of a double beta-lactam regimen as initial treatment for the febrile, neutropenic patient. He noted that the combination also caused fewer adverse reactions with substantially lower rates of nephrotoxicity and ototoxicity.

• • •

Instromedix, Inc. recently introduced a new transtelephonic transmitter for monitoring physiologic pacemakers. While the A + V Pacemaker Data Transmitter® is designed to be used specifically with A-V sequential pacemakers, it will monitor single chamber pacemakers as well. A single switch allows the patient to transmit the pacemaker pulse width artifact or the electrocardiograph (ECG) only. This choice permits physicians who monitor dual chamber pacemakers to display the atrial and ventricular spikes or a pure ECG which is not obscured by pulse width artifacts.

• • •

Multiple sclerosis (MS) cases with few or no symptoms may occur as often as diagnosed MS cases, according to an editorial in the September 1983 issue of *Archives of Neurology*. Doctors Richard A. Rudick and Robert M. Herndon of Rochester, New York note that more persons with minimal disease may be identified as the result of sophisticated diagnostic methods. Little is known about the clinical course of "silent" MS and the appropriate management of minimally-affected patients. If the nerve axons are relatively undam-

aged by the disease, there may be less functional loss in the patient. Since some patients are disabled by small lesions while others are not, additional research is needed to discover what other factors influence the severity of the disease. In the meantime, patients with minimal disease should not be subjected to aggressive treatments that would be appropriate for more disabled patients.

• • •
Business Computer Systems, Inc. has announced the upgrading and renaming of a WANG-VS® compatible office management system designed for doctors, clinics, and hospitals.

The OMD® system, derived from the company's Medical Office Management® programming, was designed to integrate the business and clinical components of medical practices. The developers claim that the new system will reduce paperwork for appointments, prescriptions, insurance forms, invoices, and statements, and improve the quantity and quality of such clinical data as patient histories, diagnoses, and treatment plans. It also produces financial reports.

• • •
The Ocean State Master Health Plan has announced a one-time \$200 cash bonus for any certifiably-overweight subscriber who loses the weight and maintains the loss. Despite the clinical linkage between obesity and several medical conditions, plan president Doctor Toussaint A. Leclercq said that he was aware of no other program which provides a cash incentive to lose weight. Eligible subscribers must be certified by their personal physicians as being at least 20 per cent over their ideal body weight. They must lose the excess weight within a year and maintain the loss for a six-month stabilizing period. The subscriber's personal physician must verify the loss.

Doctor Leclercq said that the program is the first in a series of planned "innovative health promotion incentives."

• • •
A group of Boston ophthalmologists reported the successful use of laser surgery to avert progressive visual loss in the second eye of patients who already have advanced senile macular degeneration in the first. Sixteen months after green argon laser surgery to eliminate abnormal blood vessels at the back of the eye, the vision had improved or stabilized in 70 per cent of 52 procedures, according to Alex E. Jaikh, MD, in the August 1983 issue of *Archives of Ophthalmology*. Researchers currently are investigating the ben-



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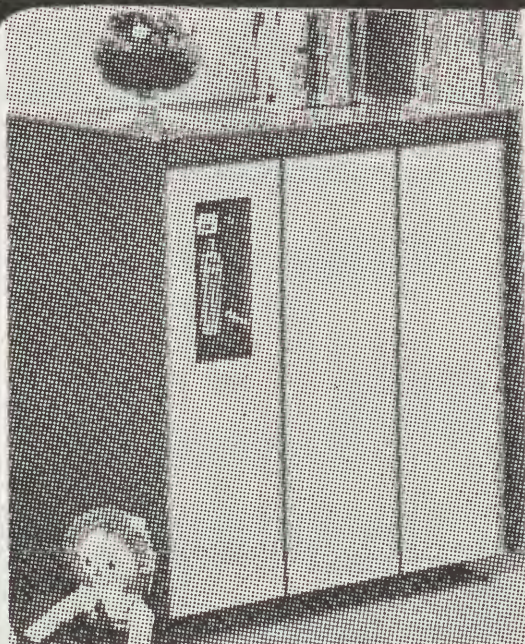
Two Harvard Medical School researchers postulate that damage to the right hemisphere of the brain suffered in early life, or inherited, may lead to chronic emotional difficulties. According to a report in the August 1983 *Archives of Neurology*, Doctors Sandra Weintraub and M. Marsel Mesulam discovered a correlation in 14 patients between neurological dysfunction of the right hemisphere and behavioral problems which had started early in the patients' lives.

Astro Resources International Corporation recently introduced the new Trace Gas Analyzer 1010®. It combines a special photoionization detector and a microprocessor-controlled system which provides precise gas analysis on an immediate basis. It is capable of measuring such gases as ethylene oxide, benzene, vinyl chloride, and formaldehyde at concentrations ranging from less than .1 ppm to 999 ppm. The unit also features a keyboard entry system, retractable sample problem, time-weighted average output,

visual and audible alarms, automatic calibration, digital display of data, and a vent line for exhaustion into sample bags or charcoal tubes.

Kontron Medical Instruments of Everett, Massachusetts recently introduced a new, disposable, four-tined fetal electrode that easily attaches to scalp tissue. The Fourtine Fetal ECG Electrode® features four precision surgical tines for easy penetration of fetal scalp with reduced probability of trauma.

An advance in Holter monitoring technology which economically provides physicians with 24- and 48-hour Holter analysis and facilitates accurate diagnoses has been developed by Instruments for Cardiac Research, Inc. (ICR). The ICR Eventmaster® 5 Holter monitoring system will print 24-hour or 48-hour full disclosure and tabular reports in approximately seven minutes for a 24-hour tape. Designed for use in physicians' offices, the system does not require specially-trained personnel, and an internal printer eliminates the need for cutting and mounting strip chart paper.



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There are other important benefits with Valium as well—along with its broad clinical range, Valium has an efficacy/safety profile that few, if any, drugs can match. This record has been achieved with extensive clinical experience, undoubtedly including yours. And, as you must have observed, side effects more serious than drowsiness, fatigue or ataxia rarely occur. Nevertheless, as with any CNS-acting agent, patients should be cautioned about driving, operating hazardous machinery or ingesting alcohol or other CNS-depressant drugs while taking Valium.

Yet another benefit Valium affords is flexibility.






Available in 2-mg, 5-mg and 10-mg scored tablets, Valium enables you to titrate dosage to individual patient needs. For the geriatric patient, a starting dosage of 2 to 2½ mg once or twice a day is recommended. And, for patients who forget or skip medication, you can prescribe Valrelease™ (diazepam/Roche) 15-mg slow-release capsules,

knowing that Valrelease will assure all the benefits of Valium 5 mg *t.i.d.* with the convenience of once-a-day dosage.

Discontinuation of Valium (or Valrelease) is typically as smooth as its start in short-term therapy. However, Valium and Valrelease should be discontinued gradually after more extended treatment. As you diminish dosage, the built-in tapering action of Valium and Valrelease will help avoid rapidly recurring anxiety symptoms and symptoms of withdrawal, and will help ease the patient's transition to independent coping when therapeutic goals have been achieved.

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Injectable Valium® (diazepam/Roche) 

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Management of anxiety disorders, or short-term relief of symptoms of anxiety or tension associated with the stress of everyday life usually does not require treatment with an anxiolytic. Symptomatic relief of acute agitation, tremor, impending or acute delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in: relief of skeletal muscle spasm due to reflex spasm to local pathology; spasticity caused by upper motor neuron disorders; athetosis; stiff-man syndrome. *Oral forms* may be used adjunctively in convulsive disorders, but not as sole therapy. *Injectable form* may also be used adjunctively in: status epilepticus; severe recurrent seizures; tetanus; anxiety, tension or acute stress reactions prior to endoscopic/surgical procedures; cardioversion.

The effectiveness of diazepam in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.

Contraindications: Tablets or capsules in children under 6 months of age; known hypersensitivity; acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

Warnings: As with most CNS-acting drugs, caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals (drug addicts or alcoholics) under careful surveillance because of predisposition to habituation/dependence.

Usage in Pregnancy: Use of minor tranquilizers during first trimester should almost always be avoided because their use is rarely a matter of urgency and because of increased risk of congenital malformations, as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

ORAL: Advise patients against simultaneous ingestion of alcohol and other CNS depressants.

Not of value in treatment of psychotic patients; should not be employed in lieu of appropriate treatment. When using oral forms adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increase in dosage of standard anticonvulsant medication; abrupt withdrawal in such cases may be associated with temporary increase in frequency and/or severity of seizures.

INJECTABLE: *To reduce the possibility of venous thrombosis, phlebitis, local irritation, swelling and, rarely, vascular impairment when used IV: inject slowly, taking at least one minute for each 5 mg (1 ml) given; do not use small veins, i.e., dorsum of hand or wrist; use extreme care to avoid intra-arterial administration or extravasation. Do not mix or dilute with other solutions or drugs in syringe or infusion flask. If it is not feasible to administer Injectable Valium directly IV, it may be injected slowly through the infusion tubing as close as possible to the vein insertion.*

Administer with extreme care to elderly, very ill, those with limited pulmonary reserve because of possibility of apnea and/or cardiac arrest; concomitant use of barbiturates, alcohol or other CNS depressants increases depression with increased risk of apnea; have resuscitative facilities available. When used with narcotic analgesic eliminate or reduce narcotic dosage at least 1/3, administer in small increments. Should not be administered to patients in shock, coma, acute alcoholic intoxication with depression of vital signs.

Has precipitated tonic status epilepticus in patients treated for petit mal status or petit mal variant status. Not recommended for OB use.

Efficacy/safety not established in neonates (age 30 days or less); prolonged CNS depression observed. In children, give slowly (up to 0.25 mg/kg over 3 minutes) to avoid apnea or prolonged somnolence; can be repeated after 15 to 30 minutes. If no relief after third administration, appropriate adjunctive therapy is recommended.

Precautions: If combined with other psychotropics or anticonvulsants, carefully consider individual pharmacologic effects—particularly with known compounds which may potentiate action of diazepam, i.e., phenothiazines, narcotics, barbiturates, MAO inhibitors and antidepressants. Protective measures indicated in highly anxious patients with accompanying depression who may have suicidal tendencies. Observe usual precautions in impaired hepatic function; avoid accumulation in patients with compromised kidney function. Limit oral dosage to smallest effective amount in elderly and debilitated to preclude ataxia or over sedation (initially 2 to 2½ mg once or twice daily; increasing gradually as needed and tolerated).

The clearance of diazepam and certain other benzodiazepines can be delayed in association with Tagamet (cimetidine) administration. The clinical significance of this is unclear.

INJECTABLE: Although promptly controlled, seizures may return; readminister if necessary; not recommended for long-term maintenance therapy. Laryngospasm/increased cough reflex are possible during peroral endoscopic procedures; use topical anesthetic, have necessary countermeasures available. Hypotension or muscular weakness possible, particularly when used with narcotics, barbiturates or alcohol. Use lower doses (2 to 5 mg) for elderly/debilitated.

Adverse Reactions: Side effects most commonly reported were drowsiness, fatigue, ataxia. Infrequently encountered were confusion, constipation, depression, diplopia, dysarthria, headache, hypotension, incontinence, jaundice, changes in libido, nausea, changes in salivation, skin rash, slurred speech, tremor, urinary retention, vertigo, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity;

insomnia, rage, sleep disturbances and stimulation have been reported; should these occur, discontinue drug.

Because of isolated reports of neutropenia and jaundice, periodic blood counts, liver function tests advisable during long-term therapy. Minor changes in EEG patterns, usually low-voltage fast activity, observed in patients during and after diazepam therapy are of no known significance.

INJECTABLE: Venous thrombosis/phlebitis at injection site, hypoactivity, syncope, bradycardia, cardiovascular collapse, nystagmus, urticaria, hiccups, neutropenia. In peroral endoscopic procedures, coughing, depressed respiration, dyspnea, hyperventilation, laryngospasm/pain in throat or chest have been reported.

Dosage: Individualize for maximum beneficial effect.

ORAL: Adults: Anxiety disorders, relief of symptoms of anxiety—Valium (diazepam/Roche) **tablets**, 2 to 10 mg b.i.d. to q.i.d.; or 1 or 2 Valrelease capsules (15 to 30 mg) daily. Acute alcohol withdrawal—**tablets**, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; or 2 **capsules** (30 mg) the first 24 hours, then 1 **capsule** (15 mg) daily as needed. Adjunctively in skeletal muscle spasm—**tablets**, 2 to 10 mg t.i.d. or q.i.d.; or 1 or 2 **capsules** (15 to 30 mg) once daily. Adjunctively in convulsive disorders—**tablets**, 2 to 10 mg b.i.d. to q.i.d.; or 1 or 2 **capsules** (15 to 30 mg) once daily.

Geriatric or debilitated patients: **Tablets**—2 to 2½ mg 1 or 2 times daily initially, increasing as needed and tolerated (see Precautions). **Capsules**—1 capsule (15 mg) daily when 5 mg oral Valium has been determined as the optimal daily dose.

Children: **Tablets**—1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use in children under 6 months). **Capsules**—1 capsule (15 mg) daily when 5 mg oral Valium has been determined as the optimal daily dose (not for use in children under 6 months).

INJECTABLE: Usual initial dose in older children and adults is 2 to 20 mg I.M. or I.V., depending on indication and severity. Larger doses may be required in some conditions (tetanus). In acute conditions injection may be repeated within 1 hour, although interval of 3 to 4 hours is usually satisfactory. Lower doses (usually 2 to 5 mg) with slow dosage increase for elderly or debilitated patients and when sedative drugs are added. (See Warnings and Adverse Reactions.) For dosages in infants and children see below; have resuscitative facilities available.

I.M. use: by deep injection into the muscle.

I.V. use: inject slowly, take at least one minute for each 5 mg (1 ml) given. Do not use small veins, i.e., dorsum of hand or wrist. Use extreme care to avoid intra-arterial administration or extravasation. Do not mix or dilute Valium with other solutions or drugs in syringe or infusion flask. If it is not feasible to administer Valium directly IV, it may be injected slowly through the infusion tubing as close as possible to the vein insertion.

Moderate anxiety disorders and symptoms of anxiety, 2 to 5 mg I.M. or I.V., and severe anxiety disorders and symptoms of anxiety, 5 to 10 mg I.M. or I.V., repeat in 3 to 4 hours if necessary; acute alcohol withdrawal, 10 mg I.M. or I.V. initially, then 5 to 10 mg in 3 to 4 hours if necessary. Muscle spasm, **in adults**, 5 to 10 mg I.M. or I.V. initially, then 5 to 10 mg in 3 to 4 hours if necessary (tetanus may require larger doses); **in children administer IV slowly**; for tetanus **in infants over 30 days of age**, 1 to 2 mg I.M. or I.V., repeat every 3 to 4 hours if necessary; **in children 5 years or older**, 5 to 10 mg repeated every 3 to 4 hours as needed. Respiratory assistance should be available.

Status epilepticus, severe recurrent convulsive seizures (I.V. route preferred), 5 to 10 mg **adult dose** administered slowly; repeat at 10- to 15-minute intervals up to 30 mg maximum. Repeat in 2 to 4 hours if necessary, keeping in mind possibility of residual active metabolites. Use caution in presence of chronic lung disease or unstable cardiovascular status. **Infants (over 30 days) and children (under 5 years)**, 0.2 to 0.5 mg slowly every 2 to 5 min., up to 5 mg (I.V. preferred). **Children 5 years plus**, 1 mg every 2 to 5 min., up to 10 mg (slow I.V. preferred); repeat in 2 to 4 hours if needed. EEG monitoring may be helpful.

In endoscopic procedures, titrate I.V. dosage to desired sedative response, generally 10 mg or less but up to 20 mg (if narcotics are omitted) immediately prior to procedure; if I.V. cannot be used, 5 to 10 mg I.M. approximately 30 minutes prior to procedure. As preoperative medication, 10 mg I.M.; in cardioversion, 5 to 15 mg I.V. within 5 to 10 minutes prior to procedure. Once acute symptomatology has been properly controlled with injectable form, patient may be placed on oral form if further treatment is required.

Management of Overdosage: Manifestations include somnolence, confusion, coma, diminished reflexes. Monitor respiration, pulse, blood pressure; employ general supportive measures, I.V. fluids, adequate airway. Use levarterol or metaraminol for hypotension. Dialysis is of limited value.

How Supplied:

ORAL: Valium scored tablets—2 mg, white; 5 mg, yellow; 10 mg, blue—bottles of 100 and 500; Prescription Paks of 50, available in trays of 10; Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25 and in boxes containing 10 strips of 10.

Valrelease (diazepam/Roche) slow-release capsules—15 mg (yellow and blue), bottles of 100; Prescription Paks of 30.

INJECTABLE: Ampuls, 2 ml, boxes of 10; Vials, 10 ml, boxes of 1; Tel-E-Ject® (dispensable syringes), 2 ml, boxes of 10. Each ml contains 5 mg diazepam, compounded with 40% propylene glycol, 10% ethyl alcohol, 5% sodium benzoate and benzoic acid as buffers, and 1.5% benzyl alcohol as preservative.



In vitro studies demonstrate



Bactericidal activity

with minimal resistance

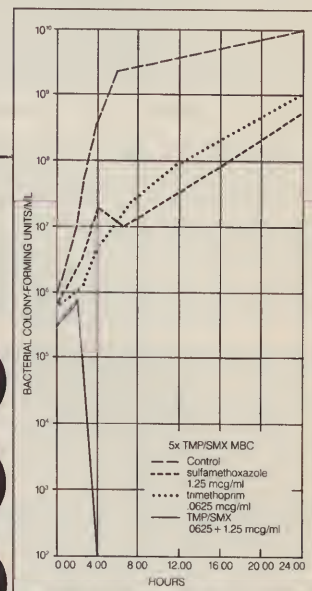
Percent of isolates of common uropathogens sensitive to BACTRIM and to other antimicrobials



†Analogous to cephalothin, the primary antibiotic disc used in testing.

Source: The Bacteriologic Report, BAC-DATA Medical Information Systems, Inc., Winter Series, 1981-82.
Numbers under percentages refer to the projected number of isolates tested.

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Kill curve kinetics of Bactrim and its individual components against *E. coli* in vitro.¹

The bactericidal action of Bactrim has been demonstrated *in vitro* on laboratory strains of *E. coli*^{1,2} and on clinical isolates of *E. coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis* and *Morganella morganii*³—the most common causative organisms of urinary tract infections.⁴ More than 100 published studies attest to the efficacy of Bactrim in recurrent urinary tract infections due to these organisms.⁵ In comparative studies with other antimicrobials, Bactrim has consistently demonstrated unsurpassed efficacy during therapy.⁶⁻¹¹

Resistance to Bactrim develops more slowly than to either of its components alone *in vitro*.^{*} Among urinary tract isolates, resistance has rarely emerged in susceptible strains.^{5,12} Bactrim is contraindicated in pregnancy at term, during lactation, in infants less than two months old and in documented megaloblastic anemia due to folate deficiency. Initial episodes of uncomplicated urinary infections should be treated with a single-agent antimicrobial.

Bactrim™ DS

(trimethoprim and sulfamethoxazole/Roche)

b.i.d. for recurrent urinary tract infections

**In vitro* data do not necessarily predict clinical results.

References: 1. Data on file, Hoffmann-La Roche Inc., Nutley, NJ. 2. Kramer MJ, Mauriz YR, Robertson TL, Timmes MD: Morphological studies on the effect of subinhibitory and inhibitory doses of sulfamethoxazole-trimethoprim combination on *Escherichia coli*. Presented at the 12th International Congress of Chemotherapy, Florence, Italy, Jul 19-24, 1981. 3. Spichehandler J et al: *Rev Infect Dis* 4:562-565, Mar-Apr 1982. 4. Stamey TA: *Pathogenesis and Treatment of Urinary Tract Infections*. Baltimore, Williams & Wilkins, 1980, p. 13. 5. Ronald AR: *Clin Ther* 3:176-189, Mar 1980. 6. Cooper J, Brumitt W, Hamilton-Miller JMT: *J Antimicrob Chemother* 6:231-239, 1980. 7. Gower PE, Tasker PRW: *Br Med J* 1:684-686, Mar 20, 1976. 8. Cosgrove MD, Morrow JW: *J Urol* 111:670-672, May 1974. 9. Irvani A et al: *Antimicrob Agents Chemother* 19:598-604, Apr 1981. 10. Schaeffer AJ, Flynn S, Jones J: *J Urol* 125:825-827, Jun 1981. 11. Rous SN: *J Urol* 125:228-229, Feb 1981. 12. BAC-DATA Medical Information Systems, Inc., Bacteriologic Reports, Winter Series, 1976-82.

Bactrim™ DS (trimethoprim and sulfamethoxazole/Roche)

Before prescribing, please consult complete product information, a summary of which follows:

Indications and Usage: For the treatment of urinary tract infections due to susceptible strains of the following organisms: *Escherichia coli*, *Klebsiella-Enterobacter*, *Proteus mirabilis*, *Proteus vulgaris*, *Proteus morganii*. It is recommended that initial episodes of uncomplicated urinary tract infections be treated with a single effective antibacterial agent rather than the combination. Note: The increasing frequency of resistant organisms limits the usefulness of all antibacterials, especially in these urinary tract infections.

For acute otitis media in children due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over other antimicrobials. To date, there are limited data on the safety of repeated use of Bactrim in children under two years of age. Bactrim is not indicated for prophylactic or prolonged administration in otitis media at any age.

For acute exacerbations of chronic bronchitis in adults due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over other antimicrobial agents.

For enteritis due to susceptible strains of *Shigella flexneri* and *Shigella sonnei* when antibacterial therapy is indicated.

Also for the treatment of documented *Pneumocystis carinii* pneumonitis.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; patients with documented megaloblastic anemia due to folate deficiency; pregnancy at term; nursing mothers because sulfonamides are excreted in human milk and may cause kernicterus; infants less than 2 months of age.

Warnings: BACTRIM SHOULD NOT BE USED TO TREAT STREPTOCOCCAL PHARYNGITIS. Clinical studies show that patients with group A β -hemolytic streptococcal tonsillopharyngitis have higher incidence of bacteriologic failure when treated with Bactrim than do those treated with penicillin. Deaths from hypersensitivity reactions, hepatocellular necrosis, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

Precautions: General: Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function. Bactrim may prolong prothrombin time in those receiving warfarin; reassess coagulation time when administering Bactrim to these patients. **Pregnancy:** Teratogenic Effects: Pregnancy Category C. Because trimethoprim and sulfamethoxazole may interfere with folic acid metabolism, use during pregnancy only if potential benefits justify the potential risk to the fetus.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, hepatocellular necrosis, diarrhea, pseudomembranous colitis and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: Not recommended for infants less than two months of age.

URINARY TRACT INFECTIONS AND SHIGELLOSIS IN ADULTS AND CHILDREN, AND ACUTE OTITIS MEDIA IN CHILDREN:

Adults: Usual adult dosage for urinary tract infections—1 DS tablet (double strength), 2 tablets (single strength) or 4 tabs. (20 ml) b.i.d. for 10-14 days. Use identical daily dosage for 5 days for shigellosis.

Children: Recommended dosage for children with urinary tract infections or acute otitis media—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. Use identical daily dosage for 5 days for shigellosis.

For patients with renal impairment: Use recommended dosage regimen when creatinine clearance is above 30 ml/min. If creatinine clearance is between 15 and 30 ml/min, use one-half the usual regimen. Bactrim is not recommended if creatinine clearance is below 15 ml/min.

ACUTE EXACERBATIONS OF CHRONIC BRONCHITIS IN ADULTS:

Usual adult dosage: 1 DS tablet (double strength), 2 tablets (single strength) or 4 tabs. (20 ml) b.i.d. for 14 days.

PNEUMOCYSTIS CARINII PNEUMONITIS:

Recommended dosage: 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.

Supplied: Double Strength (DS) tablets, each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 20. **Tablets**, each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 40. **Pediatric Suspension**, containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); cherry flavored—bottles of 100 ml and 16 oz (1 pint). **Suspension**, containing 40 mg trimethoprim and 200 mg sulfamethoxazole per tea spoonful (5 ml); fruit-licorice flavored—bottles of 16 oz (1 pint).

References:

1. Stone PH, Turri ZG, Muller JE: Efficacy of nifedipine therapy for refractory angina pectoris. *Am Heart J* 104 672-681, September 1982
2. Antman E, Muller J, Goldberg S, et al: Nifedipine therapy for coronary artery spasm. Experience in intensive care. *N Engl J Med* 302 1269-1273, June 5, 1980

BRIEF SUMMARY PROCARDIA® (nifedipine) CAPSULES

For Oral Use

INDICATIONS AND USAGE: I. Vasospastic Angina: PROCARDIA (nifedipine) is indicated for the management of vasospastic angina confirmed by any of the following criteria: 1) classical pattern of angina at rest accompanied by ST segment elevation, 2) angina or coronary artery spasm provoked by ergonovine, or 3) angiographically demonstrated coronary artery spasm. In those patients who have had angiography, the presence of significant fixed obstructive disease is not incompatible with the diagnosis of vasospastic angina, provided that the above criteria are satisfied. PROCARDIA may also be used where the clinical presentation suggests a possible vasospastic component but where vasospasm has not been confirmed, e.g., where pain has a variable threshold on exertion or in unstable angina where electrocardiographic findings are compatible with intermittent vasospasm, or when angina is refractory to nitrates and/or adequate doses of beta blockers.

II. Chronic Stable Angina (Classical Effort-Associated Angina): PROCARDIA is indicated for the management of chronic stable angina (effort-associated angina) without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or organic nitrates or who cannot tolerate those agents.

In chronic stable angina (effort-associated angina), PROCARDIA has been effective in controlled trials of up to eight weeks duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in those patients are incomplete.

Controlled studies in small numbers of patients suggest concomitant use of PROCARDIA and beta blocking agents may be beneficial in patients with chronic stable angina, but available information is not sufficient to predict with confidence the effects of concurrent treatment, especially in patients with compromised left ventricular function or cardiac conduction abnormalities. When introducing such concomitant therapy, care must be taken to monitor blood pressure closely since severe hypotension can occur from the combined effects of the drugs. (See Warnings.)

CONTRAINDICATIONS: Known hypersensitivity reaction to PROCARDIA.

WARNINGS: Excessive Hypotension: Although in most patients, the hypotensive effect of PROCARDIA is modest and well tolerated, occasional patients have had excessive and poorly tolerated hypotension. These responses have usually occurred during initial titration or at the time of subsequent upward dosage adjustment, and may be more likely in patients on concomitant beta blockers.

Severe hypotension and/or increased fluid volume requirements have been reported in patients receiving PROCARDIA together with a beta blocking agent who underwent coronary artery bypass surgery using high dose fentanyl anesthesia. The interaction with high dose fentanyl appears to be due to the combination of PROCARDIA and a beta blocker, but the possibility that it may occur with PROCARDIA alone, with low doses of fentanyl, in other surgical procedures, or with other narcotic analgesics cannot be ruled out. In PROCARDIA treated patients where surgery using high dose fentanyl anesthesia is contemplated, the physician should be aware of these potential problems and, if the patient's condition permits, sufficient time (at least 36 hours) should be allowed for PROCARDIA to be washed out of the body prior to surgery.

Increased Angina: Occasional patients have developed well documented increased frequency, duration or severity of angina on starting PROCARDIA or at the time of dosage increases. The mechanism of this response is not established but could result from decreased coronary perfusion associated with decreased diastolic pressure with increased heart rate, or from increased demand resulting from increased heart rate alone.

Beta Blocker Withdrawal: Patients recently withdrawn from beta blockers may develop a withdrawal syndrome with increased angina, probably related to increased sensitivity to catecholamines. Initiation of PROCARDIA treatment will not prevent this occurrence and might be expected to exacerbate it by provoking reflex catecholamine release. There have been occasional reports of increased angina in a setting of beta blocker withdrawal and PROCARDIA initiation. It is important to taper beta blockers if possible, rather than stopping them abruptly before beginning PROCARDIA.

Congestive Heart Failure: Rarely, patients, usually receiving a beta blocker, have developed heart failure after beginning PROCARDIA. Patients with tight aortic stenosis may be at greater risk for such an event.

PRECAUTIONS: General: Hypotension: Because PROCARDIA decreases peripheral vascular resistance, careful monitoring of blood pressure during the initial administration and titration of PROCARDIA is suggested. Close observation is especially recommended for patients already taking medications that are known to lower blood pressure. (See Warnings.)

Peripheral edema: Mild to moderate peripheral edema, typically associated with arterial vasodilation and not due to left ventricular dysfunction, occurs in about one in ten patients treated with PROCARDIA. This edema occurs primarily in the lower extremities and usually responds to diuretic therapy. With patients whose angina is complicated by congestive heart failure, care should be taken to differentiate this peripheral edema from the effects of increasing left ventricular dysfunction.

Drug interactions: Beta-adrenergic blocking agents. (See Indications and Warnings.) Experience in over 1400 patients in a non-comparative clinical trial has shown that concomitant administration of PROCARDIA and beta-blocking agents is usually well tolerated, but there have been occasional literature reports suggesting that the combination may increase the likelihood of congestive heart failure, severe hypotension or exacerbation of angina.

Long acting nitrates. PROCARDIA may be safely co-administered with nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.

Digitalis: Administration of PROCARDIA with digoxin increased digoxin levels in nine of twelve normal volunteers. The average increase was 45%. Another investigator found no increase in digoxin levels in thirteen patients with coronary artery disease. In an uncontrolled study of over two hundred patients with congestive heart failure during which digoxin blood levels were not measured, digitalis toxicity was not observed. Since there have been isolated reports of patients with elevated digoxin levels, it is recommended that digoxin levels be monitored when initiating, adjusting, and discontinuing PROCARDIA to avoid possible over- or under-digitalization.

Carcinogenesis, mutagenesis, impairment of fertility. When given to rats prior to mating, nifedipine caused reduced fertility at a dose approximately 30 times the maximum recommended human dose.

Pregnancy. Category C. Please see full prescribing information with reference to teratogenicity in rats, embryotoxicity in rats, mice and rabbits, and abnormalities in monkeys.

ADVERSE REACTIONS: The most common adverse events include dizziness or light-headedness, peripheral edema, nausea, weakness, headache and flushing each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0.5%. Syncopal episodes did not recur with reduction in the dose of PROCARDIA or concomitant antianginal medication. Additionally, the following have been reported: muscle cramps, nervousness, dyspnea, nasal and chest congestion, diarrhea, constipation, inflammation, joint stiffness, shakiness, sleep disturbances, blurred vision, difficulties in balance, dermatitis, pruritus, urticaria, fever, sweating, chills, and sexual difficulties. Very rarely, introduction of PROCARDIA therapy was associated with an increase in anginal pain, possibly due to associated hypotension.

In addition, more serious adverse events were observed, but not readily distinguishable from the natural history of the disease in these patients. It remains possible, however, that some or many of these events were drug related. Myocardial infarction occurred in about 4% of patients and congestive heart failure or pulmonary edema in about 2%. Ventricular arrhythmias or conduction disturbances each occurred in fewer than 0.5% of patients.

Laboratory Tests: Rare, mild to moderate, transient elevations of enzymes such as alkaline phosphatase, CPK, LDH, SGOT and SGPT have been noted, and a single incident of significantly elevated transaminases and alkaline phosphatase was seen in a patient with a history of gall bladder disease after about eleven months of nifedipine therapy. The relationship to PROCARDIA therapy is uncertain. These laboratory abnormalities have rarely been associated with clinical symptoms. Cholestasis, possibly due to PROCARDIA therapy, has been reported twice in the extensive world literature.

HOW SUPPLIED: Each orange, soft gelatin PROCARDIA CAPSULE contains 10 mg of nifedipine. PROCARDIA CAPSULES are supplied in bottles of 100 (NDC 0069-2600-66), 300 (NDC 0069-2600-72), and unit dose (10x10) (NDC 0069-2600-41). The capsules should be protected from light and moisture and stored at controlled room temperature 59° to 77°F (15° to 25°C) in the manufacturer's original container.

More detailed professional information available on request

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Quotes from an unsolicited letter received by Pfizer from an angina patient. While this patient's experience is representative of many unsolicited comments received, not all patients will respond to Procardia nor will they all respond to the same degree.

"My daily routine consisted of sitting in my chair trying to stay alive."

"My doctor switched me to PROCARDIA[] as soon as it became available. The change in my condition is remarkable."*

"I shop, cook and can plant flowers again."

"I have been able to do volunteer work...and feel needed and useful once again."

PROCARDIA can mean the return to a more normal life for your patients—having fewer anginal attacks,¹ taking fewer nitroglycerin tablets,² doing more, and being more productive once again.

Side effects are usually mild (most frequently reported are dizziness or lightheadedness, peripheral edema, nausea, weakness, headache and flushing, each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0.5%).



for the varied faces of angina

PROCARDIA[®] **(NIFEDIPINE)** Capsules 10 mg

* Procordia is indicated for the management of:

- 1) Confirmed vasospastic angina.
- 2) Angina where the clinical presentation suggests a possible vasospastic component.
- 3) Chronic stable angina without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and/or nitrates or who cannot tolerate these agents. In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks' duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in these patients are incomplete.

Please see PROCARDIA brief summary on adjoining page.

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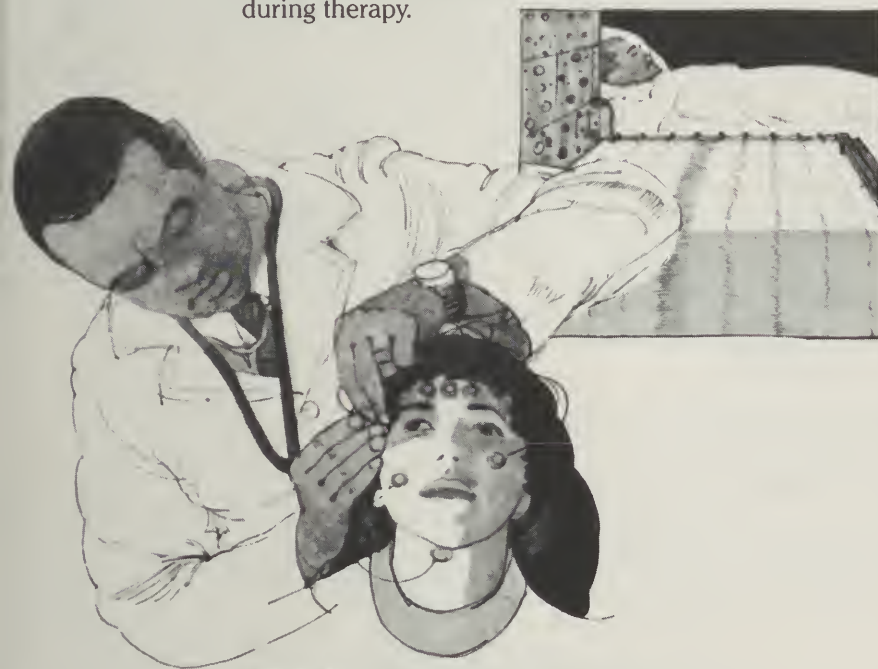
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15-mg/30-mg capsules



- Studied extensively in the sleep laboratory—the most valid environment for measuring hypnotic efficacy.¹⁻¹²
- Studied in over 200 clinical trials involving over 10,000 patients.¹³
- During long-term therapy, which is seldom required, periodic blood, kidney and liver function tests should be performed.
- Contraindicated in patients who are pregnant or hypersensitive to flurazepam.
- Caution patients about drinking alcohol, driving or operating hazardous machinery during therapy.



References: 1. Kales A et al: *J Clin Pharmacol* 17:207-213, Apr 1977 and data on file, Hoffmann-La Roche Inc., Nutley, NJ. 2. Kales A: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. 3. Zimmerman AM: *Curr Ther Res* 13:18-22, Jan 1971. 4. Kales A et al: *JAMA* 241:1692-1695, Apr 20, 1979. 5. Kales A, Scharf MB, Kales JD: *Science* 201:1039-1041, Sep 15, 1978. 6. Kales A et al: *Clin Pharmacol Ther* 19:576-583, May 1976. 7. Kales A, Kales JD: *Pharmacol Physicians* 4:1-6, Sep 1970. 8. Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc* 27:541-546, Dec 1979. 9. Dement WC et al: *Behav Med* 5:25-31, Oct 1978. 10. Vogel GW: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. 11. Karacan I, Williams RL, Smith JR: The

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Dalmane®^{IV}
(flurazepam HCl/Roche)

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; in acute or chronic medical situations requiring restful sleep. Objective sleep laboratory data have shown effectiveness for at least 28 consecutive nights of administration. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended. Repeated therapy should only be undertaken with appropriate patient evaluation.

Contraindications: Known hypersensitivity to flurazepam HCl; pregnancy. Benzodiazepines may cause fetal damage when administered during pregnancy. Several studies suggest an increased risk of congenital malformations associated with benzodiazepine use during the first trimester. Warn patients of the potential risks to the fetus should the possibility of becoming pregnant exist while receiving flurazepam. Instruct patient to discontinue drug prior to becoming pregnant. Consider the possibility of pregnancy prior to instituting therapy.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, e.g., excitement, stimulation and hyperactivity.

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg recommended initially until response is determined.

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.

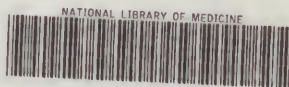


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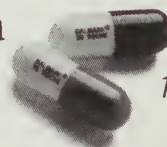
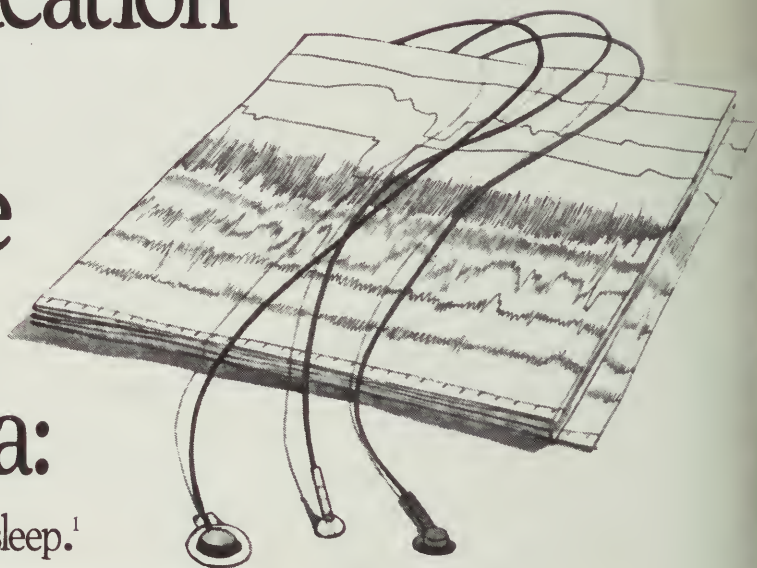
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Please see summary of product information on reverse side.

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Rhode Island Medical Journal

December 1983
Volume 66, Number 12

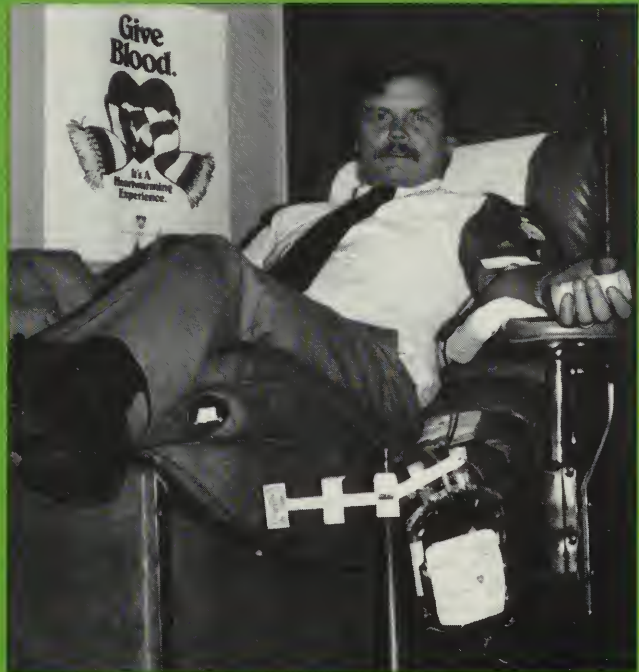
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1: RHODE ISLAND MEDICAL
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Blood Supply in Rhode Island
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An added complication... in the treatment of bacterial bronchitis*

Increasing incidence
of ampicillin resistance in
Haemophilus influenzae

Ampicillin-Resistant
Haemophilus influenzae

H. influenzae

S. pneumoniae

Brief Summary. Consult the package literature for prescribing information.

Indications and Usage: Cefaclor (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae* (*Diplococcus pneumoniae*), *Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci). Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Cefaclor.

Contraindication: Cefaclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES.

Antibiotics, including Cefaclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Pseudomembranous colitis has been reported with virtually all broad-spectrum antibiotics (including macrolides, semisynthetic penicillins, and cephalosporins); therefore, it is important to consider its diagnosis in patients who develop diarrhea in association with the use of antibiotics. Such colitis may range in severity from mild to life-threatening.

Treatment with broad-spectrum antibiotics alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by *Clostridium difficile* is one primary cause of antibiotic-associated colitis.

Mild cases of pseudomembranous colitis usually respond to drug discontinuance alone. In moderate to severe cases, management should include sigmoidoscopy, appropriate bacteriologic studies, and fluid, electrolyte, and protein supplementation. When the colitis does not improve after the drug has been discontinued, or when it is severe, oral vancomycin is the drug of choice for antibiotic-associated pseudomembranous colitis produced by *C. difficile*. Other causes of colitis should be ruled out.

Precautions: General Precautions—If an allergic reaction to Cefaclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of Cefaclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs' tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coombs' testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs' test may be due to the drug.

Cefaclor should be administered with caution in the presence of markedly impaired renal function. Under such conditions, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Cefaclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinistix® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Broad-spectrum antibiotics should be prescribed with caution in individuals with a history of gastrointestinal disease, particularly colitis.

Usage in Pregnancy—Pregnancy Category B—Reproduction studies have been performed in mice and rats at doses up to 12 times the human dose and in ferrets given three times the maximum human dose and have revealed no evidence of impaired fertility or harm to the fetus due to Cefaclor. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

Nursing Mothers—Small amounts of Cefaclor have been detected in mother's milk following administration of single 500-mg doses. Average levels were 0.18, 0.20, 0.21, and 0.16 mcg/ml at two, three, four, and five hours respectively. Trace amounts were detected at one

Some ampicillin-resistant strains of *Haemophilus influenzae*—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Cefaclor.¹⁻⁶

In clinical trials, patients with bacterial bronchitis due to susceptible strains of *Streptococcus pneumoniae*, *H. influenzae*, *S. pyogenes* (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Cefaclor.⁷

Cefaclor®

Pulvules®, 250 and 500 mg

hour. The effect on nursing infants is not known. Caution should be exercised when Cefaclor (cefaclor, Lilly) is administered to a nursing woman.

Usage in Children—Safety and effectiveness of this product for use in infants less than one month of age have not been established.

Adverse Reactions: Adverse effects considered related to therapy with Cefaclor are uncommon and are listed below.

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70).

Symptoms of pseudomembranous colitis may appear either during or after antibiotic treatment. Nausea and vomiting have been reported rarely.

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs' tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthritis, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Cefaclor. Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome. Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic—Slight elevations of SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematologic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200).

[061782P]

*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.

Note: Cefaclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

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Newsletter

RHODE ISLAND MEDICAL SOCIETY
December 1983

Charles P. Shoemaker, Jr., MD, President
Wendy J. Smith, Editor

BLUE CROSS & BLUE SHIELD PUBLISH ASSIGNMENT LIST

Blue Cross & Blue Shield of Rhode Island last month published a list of providers and suppliers of services to Medicare beneficiaries, including physicians, and their "assignment levels" for the calendar year 1982.

The Physician/Supplier Assignment Rate Listing includes the name, address, and assignment rate of each physician for Medicare patient claims processed during 1982. The assignment level is indicated in ranges, eg, zero to 10 per cent, 11 to 20 per cent, and so forth. Physicians who filed less than 100 claims last year are not included in the listing.

The list, which was distributed to senior citizen centers and Social Security offices, was mandated by the federal Health Care Financing Administration. It is available to others upon request.

The list contains the statement that "physicians and suppliers choose to accept assignment on a case-by-case basis. Assignment may not be accepted on your claim."

Physicians may request additional information about their assignment rates by calling the Professional Relations Department of Blue Cross & Blue Shield at 401/274-4848. The Department of Elderly Affairs has established a referral hotline number (277-2880) to handle questions from Medicare beneficiaries.

* * *

WHAT OTHERS ARE SAYING . . .

Senator John Chafee (R, RI) recently was quoted as claiming that "physicians got off lightly" during the 1982 round of Congressional budget cuts.

Chafee, a member of the powerful Senate Finance Committee, further said that "where I come from, if a large house is sold, it's almost always to a physician" and "the largest Mercedes" also belongs to a physician. "So I think," the senator concluded, "that we will nick them just a little this year."

Senator Chafee was quoted in an article on propsective third-party payments (diagnosis related group based reimbursement) published in the October 1983 issue of Physician's Management. When Chafee's Washington office was called to verify the direct quotation, a spokesman commented that the quote was accurate, but that "the senator's remarks were intended to be facetious and had been taken out of context."

"Usual, customary, and reasonable (UCR) is already dead as a basis for physician reimbursement . . . and [further] discussion is moot," Douglas J. McIntosh, President, Rhode Island Blue Cross & Blue Shield, told Society members at a November 7 meeting on third-party reimbursement.

Medicare adopted the UCR methodology for physician reimbursement so that payments under the program would reflect the actual charges of physicians. McIntosh said, however, that the imposition of a national "economic index" in 1971 and the review of Blue Shield expenses by the Rhode Island Department of Business Regulation have artificially restricted increases in physician payments.

The meeting was held to analyze a controversial recommendation from the AMA Council on Medical Service that the AMA withdraw its long-standing endorsement of the UCR concept and support an indemnification program in its place. Under such a system, insurance carriers would set reimbursement rates for all covered services and procedures, and physicians would be free to bill their patients for any difference between the reimbursement level and their actual charges.

The recommendation has attracted considerable attention from the lay and medical press and will be the subject of further debate at the Interim Meeting of the AMA House of Delegates this month. While proponents of the recommendation believe the continued endorsement of the UCR concept will result in physicians becoming "the captives of third-party payers," critics contend that an indemnification system will limit the availability of medical treatment, for financial reasons, for many patients.

In addition to McIntosh, the panel featured Drs John J. Cunningham, RIMS Delegate to the AMA House; Louis Vito, Jr, Chairman, RIMS Medical Economics Committee; Robert E. McAfee, South Portland, Maine, a member of the AMA Council on Long-Range Planning; and Grant V. Rodkey, Boston, a member of the AMA Council on Medical Service. Rodkey and the Massachusetts Medical Society have been plaintiffs in a suit under litigation since 1969 against the Massachusetts Blue Cross & Blue Shield.

For more on UCR, see page 505 if this Journal.

* * *

PATIENT INFORMATION SHEETS NOW AVAILABLE FOR OVER-THE-COUNTER DRUGS

The AMA recently published patient medication instruction (PMI) sheets for four over-the-counter (OTC) drugs commonly taken by many persons: aspirin; acetaminophen; antihistamines widely used in OTC preparations for motion sickness, allergies, and insomnia; and bronchodilator aerosols included in both prescription and OTC products for the treatment of asthma. The sheets are designed to explain in easily-understandable language the indications, contraindications, and adverse reactions to more than 60 commonly-prescribed medications. For additional information and order forms, write the PMI Order Department, AMA, PO Box 8052, Rolling Meadows, Illinois 60008.

* * *

REPORT SHOWS DECLINE IN THE FREQUENCY OF MALPRACTICE CLAIMS

The Rand Corporation recently reported that while the frequency of malpractice claims nationwide declined during the period 1975 to 1978, the severity of those claims increased at a rate of 30 per cent. The report, financed by the US Dept. of Health and Human Services, compares data on completed insurance claims in 1980 and during the three-year period after 1975. Among its other findings:

- The severity of awards was reduced substantially in the 17 states which imposed a financial limitation on the size of the total award (usually \$500,000) and in the 16 states which repealed or modified the collateral source rule. The modifications generally required litigants to disclose whether medical expenses already had been reimbursed under other insurance policies. The frequency of closed insurance claims, however, stayed constant in these states.
- The establishment of screening panels to eliminate frivolous suits apparently had little impact on reducing the total number of claims filed.
- While the density of lawyers had no significant effect on the number of claims in any state, there was a positive correlation between the number of lawyers and the amount of damages sought.

The report also suggests that a 24 per cent increase in the frequency of filed claims from 1960 to 1978 may be due to the 40 per cent increase in the number of physicians during the same period.

* * *

PATIENT VISITS DOWN DURING FIRST SIX MONTHS OF 1983

According to a recent report from the AMA, the total number of patient visits per physician declined an average of 4.7 per cent during the first six months of 1983. General practitioners and family physicians were hardest hit with an 8.7 per cent decrease in office visits and a 3.3 per cent decline in visits on hospital rounds. While office visits to medical specialists increased slightly, this figure was offset by a comparable decline in hospital rounds. Surgical specialists reported no change in office visits but the largest fall in hospital rounds at 7.5 per cent.

The AMA concludes from these figures that the demand for the services of most general practitioners and family physicians declined sharply and that surgeons were providing more office-based care in comparison with their professional activities during the last half of 1982.

PRACTICE MANAGEMENT QUESTION OF THE MONTH:

HOW CAN EFFECTIVE EMPLOYEES BE RECRUITED FOR MY PRACTICE?

Physicians must attract competent staff if their offices are to function smoothly. Such personnel as receptionists, nurses, and technicians often provide the initial exposure to your practice for both patients and colleagues, and it is essential that recruiting and hiring decisions be made carefully. Because the process of recruiting and hiring often is dele-

-over-

gated in larger group practices, these guidelines are intended primarily to help solo practitioners and physicians in smaller groups with their dual roles as physicians and employers.

Task Analysis and Job Descriptions: All required tasks must be identified to determine how many persons are necessary to administer the practice. Employees should be asked to make a list of their primary and secondary duties, the skills required, and the amount of time per week spent on each activity. You should supplement the list by interviewing each employee to obtain missing data and to clarify any ambiguous information.

It may be possible, after analyzing the compiled information, to combine, simplify, or eliminate some of the tasks in your office. Is one person duplicating another employee's work? Is there a more effective means of coordination? Are the lines of authority and communication clear to all employees?

Using the information gathered during the task analysis process, a description of each job should be developed. Written job descriptions are especially valuable for recruiting, interviewing and training new employees; establishing fair salary levels; defining lines of communication and accountability; and evaluating the performance of employees. They should include the job title; a summary of the job's general purpose; essential skills and educational background, including any licensure or certification requirements; responsibilities; and reporting mechanisms. Job descriptions should be reviewed regularly, especially whenever the nature of the job or the required skills change.

THE RECRUITMENT PROCESS

There are several potential sources of new employees: advertisements in local newspapers, educational institutions, employment agencies, colleagues, local hospitals, and local chapters of medical assistants organizations. You should note the following:

- Employment Agencies: While employment agencies usually base their fees on a percentage of the annual salary of the job to be filled, the percentages (and services) vary widely among agencies and it pays to "comparison shop." You should determine what portion of the fee is refunded if the employee is terminated within the first 90 days of employment, and if the agency will find a replacement at no additional charge should the new employee leave within a certain time period. It should be clearly established whether the employer or the employee is responsible for the agency's fee. If the employee pays, many employers reimburse all or part of the fee after a probationary period.
- Newspaper advertisements: Advertisements should be carefully worded to serve as an initial screening device. If the ad is too general, it will attract responses from unqualified applicants. A blind box number should be used to avoid calls and visits from job seekers. A written response also will demonstrate the respondent's writing and typing skills.
- Educational institutions: Many schools maintain active placement programs for their graduates. You should be aware, however, that graduates of medical aide programs may often lack work experience despite their considerable training.

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A WORD TO THE WHYS

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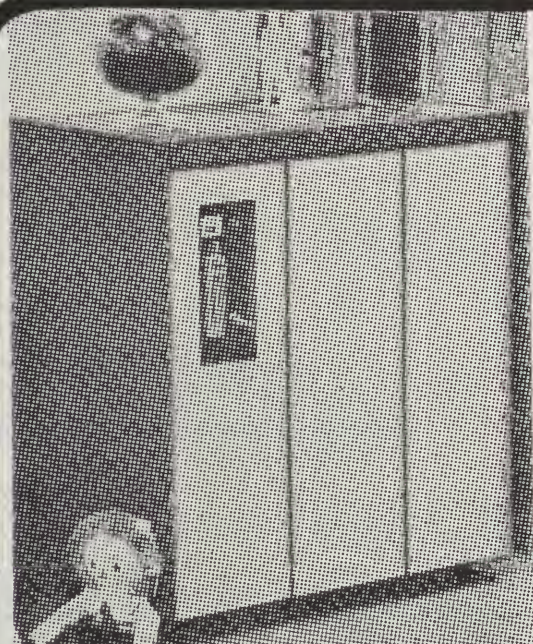


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Rhode Island Medical Journal

December 1983
Volume 66, Number 12

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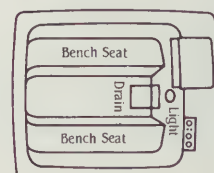
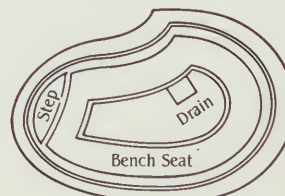
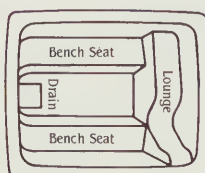
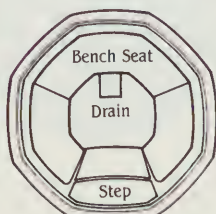
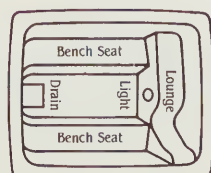
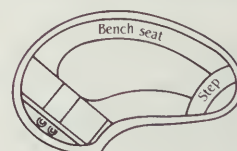
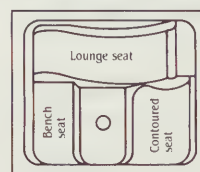
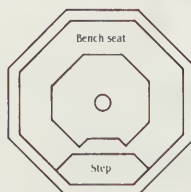
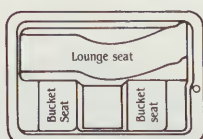
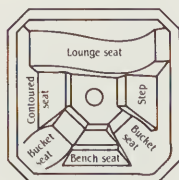
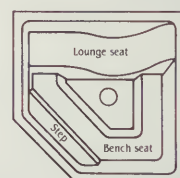
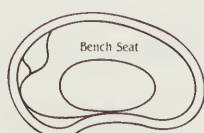
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_____	016 Corticosteroids—Oral
_____	006 Coumarin-Type Anticoagulants

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_____	034 Ergot Derivatives
_____	010 Erythromycin
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\$ Residents of IL and NY must add appropriate sale tax to subtotal

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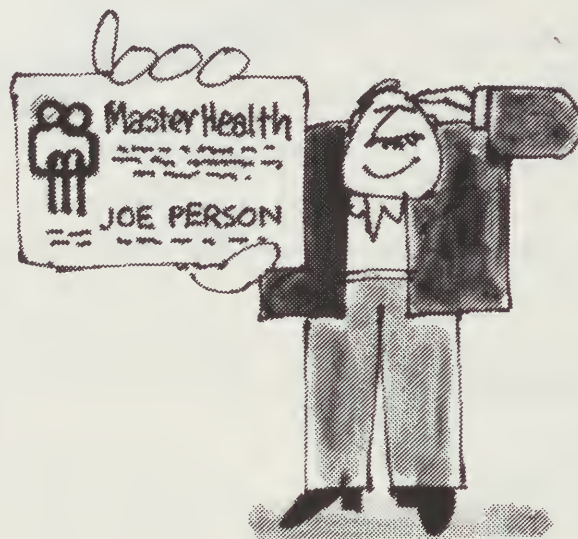
Joanne Baldwin

COVER:

A transfusion of blood and blood components is performed every five minutes in Rhode Island. To meet this need, volunteers must next year contribute more than 63,000 units of blood. January, 1984 has been designated National Volunteer Blood Donor Month to honor such donors as Edward Niejadlik of Nasonville, shown on the cover. For more on blood supply and utilization in Rhode Island, see pages 503 and 517.

Photograph by Kathleen Connolly, courtesy of the Rhode Island Blood Center.

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Blood Use in Rhode Island

Rhode Islanders use more blood transfusions per person than the residents of any other state. According to the National Blood Data Center (NBDC) of the American Blood Commission, for the years 1979 and 1980, only the District of Columbia had a higher per capita usage of red cell transfusions than Rhode Island. These findings are consistent with the complexity of cases seen in Rhode Island hospitals as revealed by studies of Medicare beneficiaries. Using the so-called "case mix" index to measure the intensity of medical care, the state is ranked highest nationally for the severity of cases treated in its acute care hospitals.

The largest users of our health care system are the elderly. With more than 13.4 per cent of its population at least 65 years of age, Rhode Island ranks third highest in the country in terms of percentage of elderly citizens. In a study at the University of Michigan Medical School, researchers summarized one million patient discharges and noted that the elderly, while comprising 11 per cent of the general population, constituted 22 per cent of all hospital discharges and received 44 per cent of all blood transfusions. With such a disproportionate use of services, it is reasonable to attribute the high per capita blood use in Rhode Island to the high proportion of elderly persons in the state.

Moreover, our per capita incidence of cardiovascular disease, malignant neoplasm, chronic obstructive pulmonary disease, diabetes mellitus, liver disease, and arteriosclerosis exceeds the national average. The prevalence of these diseases is directly associated with the high percentage of elderly persons and indirectly to the large number of medical and surgical specialists practicing in Rhode Island. Specialists such as internists, general surgeons, cardiologists, neurosurgeons, obstetricians/gynecologists, thoracic surgeons, and orthopedic surgeons, all of whom

are heavily represented in the state, generally order more blood transfusions than physicians who treat a younger and healthier population.

What is the status of the blood supply in Rhode Island? Since the last NBDC study in 1980, red cell transfusions have increased 16 per cent while blood collections rose 36 per cent. This represents an increase in the collection rate nearly two and one-half times higher than the national average and four times higher than the rest of New England. In 1980, the Rhode Island Blood Center purchased 10,000 pints of red cells from other areas. As the result of an intensified public education program during the past three years, however, this dependence on imported blood has been eliminated. For the first time, Rhode Islanders in 1983 have donated as much blood as has been transfused.

During this same period, the use of both platelet concentrates and fresh frozen plasma has risen 45 per cent. By next year, it is expected that the number of red cell transfusions will exceed 58,000 units. In addition, 35,000 blood components will be used. At this rate, a transfusion of blood or blood components is performed every five minutes in Rhode Island. The Rhode Island Blood Center must collect 63,000 blood donations to meet this challenge.

Since the per capita demand for blood in Rhode Island exceeds that of all other states, we must donate blood at a rate unequaled anywhere in the country. Continued vigilance will be necessary to assure that blood is used judiciously. Most importantly, the availability of a safe and adequate blood supply depends on strong support of this program and continued community commitment.

Charles P. Mosher
Administrative Director
Rhode Island Blood Center





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Medicare: Usual, Customary, and Reasonable and the Prospect of Mandatory Assignment

At the June 1983 meeting of the American Medical Association House of Delegates, the AMA Council on Medical Service submitted a report calling for reconsideration of the current reimbursement mechanism. The AMA Council had recommended that the AMA consider withdrawing its endorsement of the "usual, customary, and reasonable" mechanism and support an indemnification program in its place. While numerous advantages to an indemnification system were cited at the June meeting, many physicians expressed doubts about such a change.

In October, the US House of Representatives considered a proposal which would require physicians to accept, as full payment, Medicare reimbursement for hospital services. At the request of the AMA, the Society made contact with our Congressional representatives. It became apparent that organized medicine has no viable alternatives to offer Congress.

The problem facing Congress seems to be two-fold. One obviously is cost. When Medicare began, the White House staff predicted that, if physician acceptance of Medicare reimbursement as payment in full were not mandated, the cost of the program would escalate. Because of intense lobbying efforts, Congress was not able to obtain mandatory assignment, but then President Lyndon B. Johnson signed the legislation without that provision. As long as physicians retain the right to reject assignment of Medicare benefits, Congress will continue to feel pressure from senior citizens who must bear the burden as the number of "accepting" physicians declines because Medicare fees have failed to keep pace with the cost of living.

Another problem with the current practice is evidenced by a recent complaint received by the Society from a Rhode Island member of Congress concerning a constituent's bill for anesthesia services that exceeded the Medicare reimbursement rate many times over. Anesthesiologists appear to have an especially difficult prob-



Charles P. Shoemaker, Jr., MD

lem related to their level of Medicare reimbursement.

In those hospitals or departments with "closed staffs," where staff has been restricted to maintain quality of care or for other reasons, patients often encounter situations where no physician on a service accepts assignment of Medicare fees. Patients have complained that services were provided without any discussion of fees. It is understandable that Medicare patients are distressed when they receive an unanticipated bill which far exceeds the Medicare allowance.

Because of the rising cost of Medicare, we can expect Congress to continue to push for mandatory acceptance of assignment. It is obvious that physicians strongly desire Medicare allowances to keep pace with rising costs. Senior citizens would also benefit from an increase in Medicare levels so that Rhode Island physicians could continue to "accept" assignment and thus prevent out-of-pocket costs for their Medicare patients. Only with the support of the elderly can the AMA

forestall mandatory assignment.

If, however, a small proportion of our members feel obliged to assert their unfettered independence, it is inevitable that we will face mandatory assignment. As for the future course the AMA will follow in this regard, it is obvious that one goal must be to prevent universal mandatory assignment. It must also continue to advocate equitable fees for its members to offset such rising practice costs as malpractice premiums and other inflationary elements. As for strategy, at

least in Rhode Island, it would appear that an indemnification program does not seem to be appropriate. Perhaps we should instead strengthen our alliance with the elderly by publicizing our high rate of acceptance of Medicare assignment. It is our opinion that the current AMA policy of freedom of choice for all physicians is not working to the satisfaction of many, perhaps because of the abuses of a few. The role of the AMA lies in encouraging a responsible attitude on the part of its members everywhere.

HAVE YOU HEARD? . . .

The Syva Company recently received approval from the Food and Drug Administration to market a direct specimen test for the diagnosis of Chlamydia. The new MicroTrak Chlamydia trachomatic Direct Specimen Test®, unlike conventional culture methods, does not require Chlamydial cell cultures and permits a diagnosis within 30 minutes compared with the two to six days necessary for more conventional tests. In clinical trials, the accuracy of results from the new procedure were comparable to conventional cell culture methods.

One of the most prevalent sexually transmissible diseases in the United States, Chlamydia infects an estimated three to ten million additional men and women each year. If untreated, Chlamydial infections can result in such serious complications as pelvic inflammatory disease, sterility, and pneumonia in infants delivered of infected women.

The October 1983 issue of *Archives of Neurology* reports two cases of *Toxoplasma gondii* encephalitis in homosexual male patients with acquired immune deficiency syndrome (AIDS). Physicians from the UCLA Center for Health Sciences attributed to the *Toxoplasma* infection such neurological effects as lethargy, confusion, seizures, and brain lesions found on computed tomographic scans for both patients.

Cardiologists in health maintenance organizations (HMOs) tend to be more conservative in ordering costly diagnostic and therapeutic procedures than their counterparts in academic or community settings, according to a paper in the October 1983 issue of *Archives of Internal Medicine*.

Researchers from the University of California, San Francisco, who reviewed the histories of patients with chest pain and suspected coronary artery disease recommended an exercise thallium scan in 47 per cent of the cases. The \$600 procedure was recommended by 72 per cent of the university physicians and 67 per cent of the community-based physicians who reviewed the same patient histories. The study was not designed to evaluate the differences in patient outcomes.

According to a recent report in "The Scope," published by Emma Pendleton Bradley Hospital, East Providence, clinicians at the hospital recently completed a study of 68 children, aged 5 through 13 years, who had serious problems with enuresis. After a physical examination to eliminate possible clinical causes for the problem, the youngsters were assigned to one of eight different treatment groups for six weeks. Children using Tofranil®, an electronic alarm, or a combination of both showed marked improvement over children receiving a placebo or being awakened by a parent.

The Isopedix Corporation has received approval from the Food and Drug Administration to market its PROSET® Support System. The PROSET® cast is a firm, light-weight synthetic material which conforms to the injured area following the application of warm, dry air. The "fitting" and "setting" processes are separated into two distinct steps, and the cast can be used for

(Continued on page 524)

NECROLOGY

Rhode Island Medical Society — 1983

Charles B. Ceppi, MD

Doctor Charles B. Ceppi, who practiced in Jamestown for 35 years before his retirement to Florida in 1976, died on January 13, 1983, at the age of 71 years.

A graduate of Syracuse University Medical School, Doctor Ceppi served his internship at the Syracuse General Hospital in 1938 and his residency training at Rhode Island Hospital from 1939 to 1941. He was a member of the Newport County Medical Society, the Rhode Island Medical Society, and the American Medical Association.

He was the husband of the late Jane B. Ceppi.

James H. Cox, MD

Doctor James H. Cox, who practiced ophthalmology in Providence for 27 years before his retirement in 1972, died on March 10, 1983, at the age of 73 years.

A graduate of Providence College, Doctor Cox received his medical degree from the Boston University School of Medicine in 1929 and served his internship at the Massachusetts Memorial Hospital and Rhode Island Hospital. After Navy service as a commander during World War II, he completed additional training in ophthalmology at the New York Eye and Ear Infirmary. A fellow of the American Academy of Ophthalmology, Doctor Cox also belonged to the Providence Medical Association, the Rhode Island Medical Society, the American Medical Association, and the New England Society of Ophthalmology.

He was the husband of Catherine M. Cox.

Jeremiah A. Dailey, MD

Doctor Jeremiah A. Dailey, who headed the Rhode Island Department of Health from 1959 to 1961, died on October 1, 1983, at the age of 77 years.

A 1923 graduate of the LaSalle Academy, he attended Providence College and received his medical degree from the Georgetown University School of Medicine in 1930. He completed his

internship at St. Joseph Hospital, Providence, in 1931. Doctor Dailey enlisted in the US Army Medical Corps in 1935 and saw service in Hawaii, Burma, Germany, and France before his retirement in 1959. After he left the health department, Doctor Dailey held positions at St. Joseph Hospital, the former Mercy Hospital in Woonsocket, the Rhode Island Department of Social Welfare, and Cushing Hospital in Framingham, Massachusetts. His professional memberships included the Providence Medical Association, the Rhode Island Medical Society, the American Medical Association, and the Retired Officers Association.

Doctor Dailey was the husband of the late Blanche M. Dailey.

John A. Dillon, MD

Doctor John A. Dillon, who received the 1983 Charles L. Hill Award for Distinguished Service to the Rhode Island Medical Society, died on August 28, 1983, at the age of 70 years.

A 1938 graduate of the Yale University School of Medicine, Doctor Dillon completed his residency training in internal medicine at Rhode Island Hospital and Peter Bent Brigham Hospital. He was a major in the Army Medical Corps during World War II. Long active in the Rhode Island Medical Society, Doctor Dillon served as assistant treasurer (1949-1953), treasurer (1972-1973), and chairman of the Publications Committee (1971-1973). He was for many years a member of the Editorial Board of the *Rhode Island Medical Journal*. A diplomate of the American Board of Internal Medicine, Doctor Dillon also belonged to the Providence Medical Association and the American Society of Internal Medicine.

He is survived by his wife Mildred M. Dillon.

Annie Jacob Doroff, MD

Doctor Annie Jacob Doroff, who practiced medicine in Newport for more than 20 years, died on March 21, 1983, at the age of 72 years.

She received her medical degree from the Uni-

versity of Paris in 1947 and completed her training at Sydenham Hospital and Seton Hospital in New York. Affiliated with Newport Hospital until her retirement in 1974, Doctor Doroff belonged to the Newport County Medical Society and the Rhode Island Medical Society.

She was the widow of Monroe Doroff.

Thomas F. Fogarty, MD

Doctor Thomas F. Fogarty, who practiced obstetrics and gynecology for 42 years in Providence, died October 25, 1983, at the age of 72 years.

A 1936 graduate of the Jefferson Medical School, Doctor Fogarty served his internship at the former Charles V. Chapin Hospital; St. Francis Hospital, Hartford, Connecticut; and Massachusetts Memorial Hospital, Boston. He completed his residency training at the Boston City Hospital. His professional memberships included the American College of Obstetricians and Gynecologists, the Providence Medical Association, and the Rhode Island Medical Society.

Doctor Fogarty was the husband of Mary Fogarty.

Alexander A. Jaworski, MD

Doctor Alexander A. Jaworski, a pediatrician in Pawtucket for 30 years, died October 30, 1983, at the age of 63 years.

A 1941 graduate of Brown University, Doctor Jaworski received his medical degree from Tufts Medical School in 1947. He completed his residency training in pediatrics at the former Charles V. Chapin Hospital and Syracuse (NY) University Hospital. He belonged to the Pawtucket Medical Association, the Rhode Island Medical Society, and the American Medical Association, and was a past president of the National Medical and Dental Association.

Doctor Jaworski was the husband of D. Anne Jaworski.

Natalie Kechijian Jeremiah, MD

Doctor Natalie Kechijian Jeremiah, who practiced general medicine, pediatrics, and anesthesiology in Central Falls and Pawtucket from 1936 until her 1977 retirement, died on January 17, 1983, at the age of 74 years.

Doctor Jeremiah, who received her medical degree from the Medical College of Philadelphia in 1935, completed her postgraduate training at the Harvard Medical School. She became the first woman physician to practice in Pawtucket. Until her retirement, Doctor Jeremiah was affiliated

with The Memorial Hospital, Notre Dame Hospital, St. Joseph Hospital, and Roger Williams General Hospital. A fellow of the American Society of Anesthesiology, Doctor Jeremiah also belonged to the Rhode Island Medical Society and the Providence Medical Association as well as to many church and civic groups.

Doctor Jeremiah was the widow of Doctor Bert Jeremiah.

Jaroslav Koropec, MD

Doctor Jaroslav Koropec, a Pawtucket family physician, died on August 23, 1983, at the age of 65 years.

A native of the Ukraine, Doctor Koropec received his medical degree from the University of Vienna in 1947. After coming to this country in 1949, he served his internship and residency at the Roger Williams General Hospital and the former Charles V. Chapin Hospital. A fellow of the American Academy of Family Practice, Doctor Koropec served as president of the Rhode Island chapter during 1977-1978 and as president of the Pawtucket Medical Association from 1973 to 1974. He also belonged to the Rhode Island Medical Society, the American Medical Association, and the Ukrainian Medical Association of North America. An assistant clinical professor at the Brown University Program in Medicine, Doctor Koropec was affiliated with Roger Williams General Hospital and Notre Dame Hospital.

He was the husband of Nina W. Koropec.

Paul B. Metcalf, Jr, MD

Doctor Paul B. Metcalf, Jr, long active in the Rhode Island medical community, died on November 7, 1983, at the age of 64 years.

A graduate of Yale University, Doctor Metcalf received medical degree from Harvard Medical School in 1941. He practiced surgery in Pawtucket until his retirement as chief of surgery at Notre Dame Hospital in Central Falls earlier this year. Doctor Metcalf, who served as clinical professor of surgery at the Boston University School of Medicine, also was affiliated with Memorial, St. Joseph, Veterans' Administration, and the Miriam Hospitals.

Doctor Metcalf served as vice-president of the Rhode Island Medical Society from May 1980 to May 1981 and as president of the Health Care Review, Inc (formerly Rhode Island PSRO) and had served on its board of directors and as chairman of the data committee. He also was a past president of the Rhode Island Health Services Research, Inc and served on its board.

Alfred L. Potter, MD

Doctor Alfred L. Potter, who practiced obstetrics and gynecology in Providence for more than 40 years and served as head of the medical staff for seven years at the former Providence Lying-In Hospital, died on April 13, 1983, at the age of 90 years. At the time of his death, Doctor Potter served as a trustee of the Benevolence Fund of the Rhode Island Medical Society.

A 1918 graduate of the Cornell University Medical School, Doctor Potter completed his training at Women's Hospital and the US Naval Hospital, both in New York City. During the 1940s and 1950s, he taught at the Harvard Medical School, and from 1937 to 1946, he served on the faculty of the Tufts University Medical School. Long active in medical society affairs, Doctor Potter held numerous elected positions during his professional career. He served as president of the Rhode Island Medical Society (1959-1960), the Providence Medical Association (1953), and the New England Society of Obstetricians and Gynecologists (1957). He also was a fellow of the American College of Obstetrics and Gynecology and a member of the American Association of Obstetrics and Gynecology.

He was the husband of Helen B. Potter.

Henry L. C. Weyler, MD

Doctor Henry L. C. Weyler, who practiced cardiology in Providence from 1939 until his recent retirement, died on September 10, 1983, at the age of 90 years.

Doctor Weyler received his undergraduate degree from Brown University in 1916 and his medical degree from Harvard Medical School in

1921. He completed his postgraduate training at Carney Hospital, Boston, and Boston City Hospital. Known for his research on electrocardiography, Doctor Weyler was chief of medicine emeritus at the former Providence Lying-In Hospital. He also was affiliated with Rhode Island, Butler, Roger Williams General, and The Miriam Hospitals. He belonged to the Providence Medical Association, the Rhode Island Medical Society, and the American Medical Association.

Doctor Weyler was the husband of Adelaide Weyler.

David G. Wright, MD

Doctor David G. Wright, a former superintendent and physician-in-chief at Butler Hospital, died on June 5, 1983, at the age of 70 years.

A 1938 graduate of the University of Pennsylvania Medical School, Doctor Wright researched the pressures of air combat during his service as a psychiatrist with the Army Air Force during World War II. He received the Purple Heart and the Air Medal with Oak Leaf Clusters, and served as Chief of the Neuropsychiatric Service of the Army Air Forces Convalescent Hospital, Cochran Field, Georgia, until his discharge in 1945. While at Butler Hospital from 1946 to 1951, he served as assistant clinical professor of psychiatry at Yale University Medical School. He entered the private practice of psychiatry in Providence in 1951. Doctor Wright belonged to the Providence Medical Association, the Rhode Island Medical Society, the American Medical Association, and the American Psychiatric Association.

Dr. Wright was the husband of the late Mildred Wright.



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Choledochoscopy

The Flexible Fiberoptic Choledoscope Promises to Reduce Significantly the Incidence of Retained Common Duct Stones

Erminio R. Cardi, MD, FACS

The retained common bile duct stone continues to plague the surgeon, as it has since the turn of the century. Despite improved and prolonged surgical training and the advent of sophisticated technology such as ultrasonography and intraoperative cholangiography, the incidence of retained stones remains unacceptably high, ranging between four and 14 per cent. Choledochoscopy as an integral part of the operative procedure appears likely to be a solution to this nettlesome problem.

Choledochoscopy as an intraoperative procedure has been advocated since 1941, but has failed to gain widespread acceptance until recently. The growing number of publications on the subject in the surgical literature reflects the widening acceptance of this technology. The single most important obstacle to its general use is the lack of experience with endoscopy in general. Training in general surgery has been too rigidly oriented toward the scalpel, to the exclusion of endoscopy, while in other surgical specialties, such as urology, thoracic surgery, gynecology and, more recently, orthopedics, endoscopy is an integral part of the training program and of daily practice.

Rigid and flexible fiberoptic scopes are currently available. Because the rigid scopes have the advantage of significantly lower costs than their flexible fiberoptic counterparts, they currently enjoy wide popularity. However, flexible scopes appear to be less traumatic and have the important advantage of being adaptable during the im-

mediate postoperative period to extracting retained stones. The flexible choledoscope will replace the rigid scope even as the flexible bronchoscope has replaced the rigid bronchoscope.

Fortunately for the biliary surgeon, flexible fiberoptic scopes are currently available in most hospitals. In fact, the fiberoptic bronchoscope serves very well as a choledoscope, and currently available fiberoptic choledoscopes are nothing more than modifications of the bronchoscope. We should not allow ourselves to be deterred by the term "bronchoscope," and indeed the newer choledoscopes are advertised and sold as choledocho-nephroscopes, suggesting their multiple applications.

In actual practice, the fiberoptic broncho(choledocho)scope or the newer and smaller diameter choledocho-nephroscope is gas sterilized and kept available in the operating room, so that it can be readily provided should any indication for exploration of the bile duct arise. During the initial experience, it is prudent to use cholangiography as an adjunct until such time as experience and familiarity are gained with choledochoscopy. Once confidence is gained, intraoperative cholangiography can be omitted. Biopsy forceps and stone baskets can be passed through the instrument channel of the scope as indicated. Eventually, the experienced surgeon can look forward to the ultimate in bile duct surgery, namely primary closure of the duct, when fully confident of a clear bile system. This has the added benefit of a significantly shortened hospital stay, comparable to that for simple cholecystectomy, with significant fiscal savings. In my most recent experience, I have routinely omitted cholangiography and insertion of T-tubes, and have closed the duct primarily with satisfactory results. However, I have not hesitated to use these procedures whenever choledochoscopy is not completely satisfactory.

The fiberoptic broncho(choledocho)scope, or

This paper was presented before the Providence Surgical Society on November 30, 1982.

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the narrower choledochoscope, serves as an excellent device in the immediate postoperative state for the removal of retained stones. The procedure is carried out in the operating room under sterile conditions, with surprisingly little or no discomfort to the patient. Small doses of intravenous Valium® are used as indicated. Postoperative choledochoscopy has been successful in my experience within 10 days of surgery. The T-tube is removed and the abdomen prepared and draped in the usual manner. The scope is then passed percutaneously through the T-tube sinus tract. There is a definite popping sensation on entering the duct system. Inspection of the proximal and distal ends of the ductal system down to and including the papilla of Vater can usually be accomplished easily. A stone basket can be passed through the instrument channel of the scope to manipulate and remove retained stones. A biopsy forceps is also available for biopsy of suspicious lesions. My personal experience with this procedure in a small number of cases has been very satisfying. Of no minor consideration is the consolation that attending surgeons no longer have to transfer their patients to another service, and all too often to another hospital.

Summary

Choledochoscopy affords the surgeon the incomparable advantage of direct visualization of the bile duct system, eliminating guesswork in interpreting, and all too often misinterpreting, radiographic shadows. Choledochoscopy is simple, safe, accurate, and satisfying. Broncho(choledochoscopes are generally available at all hospitals, so that costly outlays can be avoided. Additionally, it can be safely used in the postoperative state to remove retained stones by the attending surgeon. Choledochoscopy is a procedure whose time has arrived.

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Microsurgical Removal of Ruptured Lumbar Disks

While Early Excellent Results Appear Likely to be Permanent, Long-Term Studies Are Needed

David M. Barry, MD, FACS

In 1978, Williams reported his experience with 532 lumbar microdiscectomies performed for ruptured or protruding lumbar disks.¹ Despite his excellent results, many surgeons retain doubts about this procedure. This skepticism may be due to the fact that, practicing in Las Vegas, Williams frequently operated on dancers, who could lose their livelihood because of a visible scar or a protracted postoperative convalescence. Because of these factors, he started using this operation in 1972.

This writer remained skeptical, having obtained satisfactory results with the standard hemilaminotomy which he had utilized since entering practice in 1958. Doctor Donald Wilson at Dartmouth Medical School began to utilize microdiscectomies in 1977, and by the end of 1981 had performed more than 400 of these procedures. The Hitchcock Hospital in Hanover, New Hampshire, as one of the few hospitals in the Northeast where microdiscectomies were performed, was probably the largest referral center for this procedure in New England. While a visiting professor at Dartmouth in 1982, I had the opportunity of observing and performing many such procedures and, more importantly, of seeing both the immediate and longer term postoperative results in the clinic.

In 1981, Wilson and Harbaugh published the results of 100 consecutive microdiscectomies and compared them to 100 consecutive previous cases performed in the conventional manner.² While Wilson had operated on all 200 patients, the analysis of the results was carried out indepen-

dently by Harbaugh. They concluded that microdiscectomy was superior to the standard operation in all phases of convalescence. Patients had minimal postoperative discomfort, were discharged from the hospital in a few days, and returned to work in less than half the time. There was practically no blood loss during the surgical procedure. A troubling observation, however, was the nearly three per cent postoperative interspace infection rate in the initial 100 cases.

In accordance with the Oslerian philosophy of never being the first nor the last to adopt a treatment which might benefit patients, I resolved to begin using the procedure. Only two new instruments were necessary. Most of the remaining instruments were available, since microsurgery was already being performed in our hospital. The new acquisitions were a Williams retractor and a micropituitary cup forceps with a one mm jaw and a small tooth. Indeed, the procedure requires only a relatively few instruments (Fig 1).

Selection of Patients

The operation is not appropriate for patients with either a questionable diagnosis or doubtful location of the pathological process. It is never performed when back pain is the only presenting symptom, regardless of myelographic findings. I have no hesitancy, however, to operate on patients who have unequivocal localizing neurologic signs, but with normal or equivocal myelograms. The more intense the sciatic pain, the better the result. Only patients with virgin disks should be considered suitable candidates. The operation should not be performed on patients with severe degenerative bone changes or with spinal stenosis, regardless of any associated disk pathology. A computed tomographic scan is extremely helpful in recognizing these disorders.

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Procedure

There are two prevailing views among neurosurgeons as to the amount of disk material which should be removed. Williams removes only the extruded or protruding portion of the disk, while Wilson advocates removing as much material as possible from the interspace. My own technique is a compromise. After removing the extruded or protruding disk material, I further remove whatever material comes freely from underneath the posterior longitudinal ligament. Most neurosurgeons avoid utilizing curettes during the procedure so as to prevent injury to the cartilaginous end-plates. Leaving the cartilaginous plates and a significant amount of strongly-secured disk material within the interspace has in my experience contributed to an uneventful course.

The increase in postoperative diskitis appears to be related to the use of the operating microscope. While this danger is well-recognized, the risk is small and acceptable when use of the microscope is essential. In the case of microdiscectomy, however, 4.5 mm loupes used with a fiberoptic headlight provide adequate light and magnification.

The operative procedure does not vary much from the conventional hemilaminotomy except for the size of the incision and the instruments which are used. The patient is placed in the prone position with the back flexed as much as possible. After skin preparation and draping, a spinal needle is inserted straight downward over the involved interspace. The C-arm is utilized to confirm the localization. The needle must not be inserted at an angle or between the spinous processes because this placement may result in an improperly-placed skin incision. An error of even a few millimeters is unacceptable.

A one-inch incision is centered directly over the interspace and carried down to the paravertebral muscles. Bleeding is controlled by electrocoagulation. After insertion of small self-retaining retractors, the paravertebral fascia is incised with an electric scalpel just lateral to the midline on the side of the lesion. A periosteal elevator and sponge are utilized to scrape away the muscles from the lamina and the ligamentum flavum. The dissection should be extended as far laterally as possible. The self-retaining retractors are removed from the subcutaneous tissue and replaced by a Williams retractor according to the depth of the wound. This provides excellent visualization of the ligamentum flavum and small



Fig 1. Total instrument kit for microsurgical discectomy. Upper left small subcutaneous retractor. Lower, left to right: Williams retractor, burning forceps, bipolar forceps, 1 mm Kerrison rongeur, No 11 scalpel, microsucker, micronerve hook, No 5 Penfield dissector, 1 mm pituitary forceps, peapod, microscissors, and periosteal elevator.

portions of the two adjacent lamina. The ligamentum flavum is incised horizontally as far laterally as possible. Micropatties are inserted to protect the underlying nerve root and dura.

It is often possible to extend the incision upward a few millimeters at the anterior and posterior extent of the ligamentum flavum in a U-shaped manner. The ligament can then be reflected upward with a dural suture and either tied to muscle or fixed by grasping the suture with a small instrument for retraction. If this cannot be accomplished, a one mm angled Kerrison rongeur is utilized to remove any remaining ligamentum flavum lateral to the incision, including its bony attachment. The surgeon can now see, or at least feel, the lateral aspect of the involved nerve root. Every effort is made to preserve the epidural fat. The fat and nerve root are gently displaced medially, any epidural veins are coagulated and divided with microscissors, and the extruded disk material is removed. The nerve root is retracted slightly medially by a microsucker, which thus serves two functions. At L5-S1, removal of the bone from the lamina is rarely necessary, while a very small laminotomy may be required at L4-L5. A very small opening is made in the posterior longitudinal ligament, and the disk is removed with the Williams pituitary forceps. No attempt is made to remove disk material which is firmly attached within the interspace. A nerve hook is passed under the root and out into the foramina to assure that there are no further loose epidural fragments. The epidural fat is encased about the nerve root, and the ligamentum flavum is allowed to fall back into place. The

wound is then closed and covered with a bandage dressing.

Drugs

Some years ago we were confronted with a series of postoperative infections, the cause of which remained obscure. Doctor Leonard Malis of Mount Sinai Hospital in New York, faced with a similar problem, devised an intraoperative antibiotic mix consisting of 1 g of vancomycin intravenously, 80 mg of gentamicin intramuscularly, and a saline irrigation solution which contained 50 mg/L of streptomycin. In more than 1,000 major neurosurgical cases using this method, he experienced a postoperative infection rate of 1.9 per cent, compared to a 7.3 per cent rate in cases where the method was not used.³ Malis subsequently reported 1,732 consecutive neurosurgical cases with no infections and no complications while using this antibiotic combination.⁴

Postoperatively, patients are given a choice of Demerol® intramuscularly, or Percodan® orally. Many find the Percodan® adequate for pain relief. Dexamethasone is administered routinely for three days.

Results

Twenty-five patients have undergone this procedure since June 1982. There were 13 males and 12 females, ranging in age from 22 to 55 years, with an average age of 36 years. Eleven patients were discharged on the first postoperative day, and the longest postoperative stay was four days (one patient). The average postoperative hospital stay was 1.73 days.

Of the 25 operations reported, nine resulted from work-related injuries. They deserve special attention since, surprisingly, their average postoperative stay was 1.56 days, or less than that of 16 non-compensation cases. Five patients with work-related injuries have returned to full employment. One, a nurse anesthetist, attended a party on her first postoperative day. Of the remaining four patients, two have repeatedly requested, but have been denied, lighter work by their employers. Another patient, injured in 1978 while working as an x-ray film technician, was completely disabled. She was able to fly home to Florida as soon as her sutures were removed and has reported that she is completely free of pain for the first time in four years.

The only poor result among the 25 patients was a workers' compensation patient, a 55-year-old

woman with an L4-L5 disk and an immediate good result. She was discharged on her first postoperative day and returned six days later for the removal of sutures. At that time, she reported a return of pain in her leg, which was different, however, from her previous preoperative sciatica. She also exhibited a significant bluish-black discoloration, reportedly of three days' duration, of her foot. An arteriogram revealed extensive vascular occlusive disease, for which an aorto-femoral graft procedure was performed. Postoperatively, she developed a phlebitis in the same leg. At the time of her last visit, it was impossible to determine the etiology of the residual leg discomfort.

The remaining 24 patients have done extremely well. All have resumed essentially the same activities performed before their disk trouble, and all have been discharged, except for the compensation patients who are not working and who must be seen regularly for legal, rather than medical, reasons.

Discussion

How does microdiscectomy compare with chemonucleolysis? The indications for both procedures are practically identical. The Canadian group and the few Americans utilizing the procedure prior to 1974 indicate that the long-term results are quite similar to those of conventional surgical discectomy. The true long-term results of microdiscectomy are not as yet available, except that subsequent operations because of the development of postoperative epidural scar tissue are almost never necessary. As far as the short-term results are concerned, microdiscectomy patients appear to have less postoperative morbidity, are discharged from the hospital earlier, and do not run the risk of allergic reactions, which range from transient urticaria to death. A shorter length of stay in the hospital also considerably reduces the medical costs.

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Blood Usage: Physicians' Order Practices for Four Elective Surgical Procedures

Audit of Rhode Island Hospitals Reveals High Incidence of Unnecessary Routine Blood Crossmatching

Robert E. Newhouse, MD
John R. Stuart, MD
Joanne Baldwin

In 1982, as in previous years, hospitals in Rhode Island faced intermittent shortages of blood and blood components. The proliferation of sophisticated surgical techniques, the number of patients requiring blood because of aggressive chemotherapy, and the increasing use of such blood components as platelets and fresh frozen plasma have increased the need for blood in the state.

The establishment of the Rhode Island Blood Center in May 1979 assured area hospitals of a centralized facility which monitors the quantity and availability of blood components and provides for efficient distribution on a daily basis. The Rhode Island Blood Center must be credited with reducing the annual wastage rate from 15 to two per cent.

The minimum blood supply reserve in Rhode Island, according to the center, amounts to 1,500 units (pints), or approximately a ten-day supply. Despite the growing demands for blood, the number of donor units throughout the country is increasing slowly on an annual basis. January was first declared National Volunteer Blood Donor Month by the President of the United States in

1971, and each January this declaration has been renewed. However, less than five per cent of eligible potential donors actually give blood, and donors have become even more reluctant in the recent past. While significant shortages have not yet materialized, the possibility of such situations arising in the near future cannot be excluded.

The Need for Transfusions

Physicians base their orders for the typing and crossmatching of blood on their patients' needs or the reasonable expectation of a requirement for transfusions. In actual practice, however, the routine crossmatching of blood is often based on the remote possibility that the blood will be needed.

Investigations to reduce the periodic shortages have focused on methods of augmenting the blood supply. Research has been conducted on the use of autotransfusion, the extension of blood storage time, motives for donation, and the use of artificial blood substitutes. Other investigations have sought to reduce the time and cost of the typing and crossmatching procedure, eg, the use of the Maximum Surgical Blood Order Schedule (MSBOS) or the use of typing and screening.^{1, 2}

At the suggestion of several surgeons, the Quality Review Committee of Health Care Review, Inc in February 1982 approved this subject for additional study and requested that a subcommittee develop an appropriate protocol. While the expertise of the Rhode Island Blood Center and individual hospital blood bank directors was acknowledged, the Committee expressed concern as to the lack of awareness by surgeons and their routine orders for crossmatched units for procedures which rarely result in transfusions.

It also was pointed out at the time that such a study may not be necessary because the overall crossmatch/transfusion ratio in Rhode Island of

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2.4/2.3:1 is generally acceptable. Unnecessary crossmatching is, however, expensive and time-consuming and may contribute to the unavailability of units for other procedures. Several hospitals in New England such as New England Deaconess Hospital, which has a crossmatch/transfusion ratio of 2.5:1, require typing and screening for any procedure when less than three units have been ordered for crossmatching.

As an initial step, 14 short-term acute care hospitals in Rhode Island were surveyed for specific guidelines or policies related to preoperative orders for typing and crossmatching. Ten of the hospitals reported that typing and crossmatching are routinely performed prior to elective surgery and that typing and screening in place of typing and matching for selected elective procedures also are routine. Guidelines and policies, however, were not uniform in these hospitals, and in some cases they did not exist.

The Quality Review Subcommittee then developed a study protocol and data collection format. The data elements addressed the ordering practices of physicians for typing and matching, typing and screening, or both; the number of units ordered for crossmatching; whether ordered as a part of pre-admission testing or upon admission; the number of units not ordered but later crossmatched; and the number of units actually used.

The study population included the discharged Medicare patients at 14 facilities during the first nine months of 1982. The sampling was restricted to four elective principal procedures (cholecystectomy, abdominal hysterectomy, vaginal hysterectomy, and prostatectomy) which are documented and recognized as requiring few actual transfusions. Data collection was initiated in April 1982, and some 435 Medicare cases were reviewed for the study.

Of the entire study population, some 326, or 75 per cent, had one or more units typed and crossmatched prior to surgery. The use of typing and crossmatching, when evaluated by procedure, ranged from 65.8 per cent to 86.7 per cent of the respective populations (see Table 1). A total of 585 units was ordered for typing and crossmatching for the 326 patients. A total of 30 units, or 5.1 per cent, was actually transfused, and 555 units, or 94.9 per cent, were not transfused. Most blood banks hold crossmatched blood for 48 hours.

A single unit was ordered for typing and crossmatching in 114 patients, or 35 per cent, and 16 of 22 transfused patients received a single unit transfusion. No units were typed and cross-

Table 1. Use of Typing and Crossmatching by Procedure

Procedure	Total Patients	Number Typed and Crossmatched	Percentage
Cholecystectomy	199	131	65.8
Prostatectomy	142	118	83.1
Vaginal hysterectomy	49	38	77.6
Abdominal hysterectomy	45	39	86.7
Total	435	326	74.9

Table 2. Ratio of Patients to Blood Units

Procedure	Patients/Units Crossmatched	Patients/Units Transfused	Patients/Units Not Transfused
Cholecystectomy	131/243	11/15	120/228
Prostatectomy	118/183	4/4	114/179
Vaginal hysterectomy	38/75	2/4	36/71
Abdominal hysterectomy	39/84	5/7	34/77
Total	326/585	22/30	304/555

matched prior to surgery for 81 patients, or 18.6 per cent (cholecystectomy, 58 patients; prostatectomy, 13; vaginal hysterectomy, 5; and abdominal hysterectomy, 5).

The use of typing and screening in place of typing and crossmatching was minimal and appeared to be performed routinely at only three facilities. Generally, typing and screening were performed during pre-admission testing, although in several cases physicians ordered the procedure at the time of admission.

During the study additional problems, both statewide and those unique to certain hospitals, were identified. These problems included, but were not limited to, such issues as incomplete or inadequate blood bank requisition slips and administration and transfusion records; duplicate orders for the crossmatching of units (ie, from both the surgeon and anesthesiologist); and inadequate or missing acknowledgment of physicians' orders for crossmatching of units by the blood bank.

There was no uniformity in the medical record documentation as to the acknowledgment of physicians' orders, the number of units actually typed and crossmatched, and the length of time

the units were held. Table 2 provides the number of patients and units for each procedure, the number of transfusions, and the number of patients and units not transfused.

Summary

The results demonstrated by this study appear to be due to the lack of awareness of the problem by surgeons, especially with procedures which do not commonly require transfusions.

These results are not necessarily representative, and they are not intended to imply overutilization of crossmatching for all procedures. It is apparent, however, that routine crossmatching does prevail for at least four procedures where transfusions are not necessary. As a result of this study, the Quality Review Committee recommended that Health Care Review, Inc appoint a three-member physician subcommittee to evaluate the use of safe alternatives to routine typing and crossmatching, develop general guidelines for uniform areawide blood ordering practices for specific procedures, and plan and sponsor an educational session for physicians. The Committee also recommended publication of the study findings. A follow-up study was initiated in October 1983.

The Committee also recommended that each hospital, for a specific time period, monitor the number of units ordered preoperatively for crossmatching and the number of units transfused. Hospitals should review their mechanisms for communicating physician orders for typing

and screening and typing and crossmatching to avoid duplicate orders. Transfusion records should be evaluated for clarity and completeness, and appropriate and safe alternatives to routine crossmatching should be established, either through a Maximum Surgical Blood Order Schedule (MSBOS) or the use of typing and screening. Hospital medical staffs should be involved with educational sessions on the effectiveness and cost benefits of appropriate alternatives.

Acknowledgments

The Quality Review Committee of Health Care Review, Inc. wishes to express its appreciation for the substantial contribution made by Augustine Colella, MD, Director of Pathology, Fogarty Memorial Hospital, North Smithfield, and member of the Board of Directors, Health Care Review, Inc. We also wish to acknowledge the generous cooperation of the Rhode Island Blood Center.

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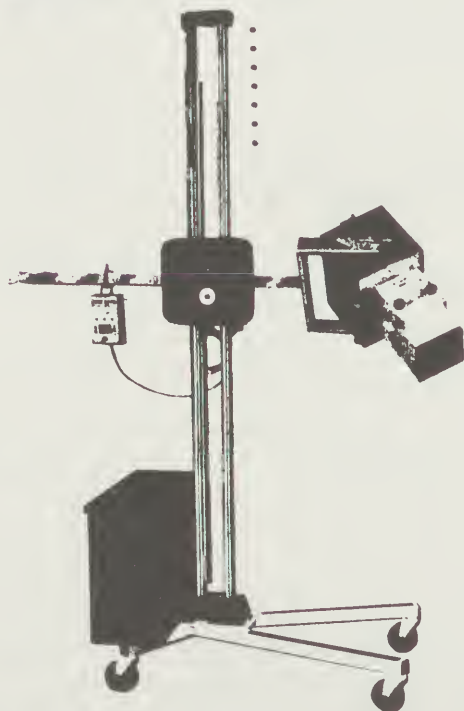
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BOOK REVIEW

The Massachusetts Medical Society

A Society of Physicians

By Everett R. Spencer, Jr. 410 pp.

Boston: Massachusetts Medical Society,
1981, \$26

Boston is 40 miles away, not a world apart in distance, common interests, goals, and problems. Boston for some is a medical alma mater and for most of us, at least, a foster parent. The turbulences, troubles, and triumphs of organized medicine during the past 30 years, as covered by the author, are common to all of us. Never will this be more clearly or cleverly committed to history.

This special history commemorates the 200th anniversary of the Massachusetts Medical Society. The last definitive history of the organization was written by Walter Burrage in 1923. The book under review is a lively update of the last 30 years and is unique for its extensive coverage of such rapid changes in medicine as the information explosion, changes in the delivery of care, and methods of payment. All of these new problems have been superimposed on the perennial issues of organized medicine. They are clearly analyzed, recorded, and documented.

Everett Spencer, who began his work for the Society in 1949, was the first non-physician to serve as Executive Secretary. In his introduction, Claude Welch notes that he was a fortunate choice, for no one had the full time to develop the intimate knowledge of the Society in a continuous way as did Everett Spencer. Jacob Fine, a past president of the Society, once described the character of the author and noted that "his calm deportment, wry humor, and clear thinking are priceless assets." Welch himself says of the book, "His is a sympathetic portrayal of a body of physicians . . . this book is a window on the entire medical establishment."

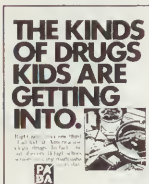
Many of us from Rhode Island hold the same opinion of the author. The officers of the Rhode Island Medical Society for the past three decades have worked with him, either in the Council of the New England State Medical Societies, or in

the delegations to the American Medical Association meetings. It was this reviewer's privilege to have the opportunity to know the author in such a capacity for nearly ten years. In the foreword, appears this statement typical of the author, "Although I have labored in organized medicine's vineyard for more than 30 years, and although I am an honorary member of the Society, I lack the writing confidence that is evidenced in the wit and elegance of Garland, the ease of Lewis Thomas, the erudition of Holmes, and the charming irony of Ingelfinger." Spencer's style, however, makes him more than worthy to join this august group.

A medical society, like a club, an association, or any other society, is, in the last analysis, a group of individuals gathered together by their common interests. Physicians are students of medical science, practitioners of an art, and wage earners. A medical society is the sum of the individual aspirations, needs, and problems of its members. Its positions are determined in a democratic fashion by its members for the benefit of the majority, or in some instances, the most vocal elements of its membership. The problems discussed in this unique history of the Massachusetts Medical Society during the past 30 years deal with such organizational issues as the need for special committees, medical education, maintenance of a library, and publication of the *New England Journal of Medicine*. The Society also represents membership interests with the government in matters of legislation on the local, state, and national levels. It must deliberate and take positions on matters of medical economics. And finally, it must maintain ethics and discipline to preserve the organization and the good name of its members. These are all generic issues and well known to those who have been willing to devote some of

(Continued on page 522)

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Book Review

(Continued from page 521)

their time to organized medicine.

Under a general section, "Liberal Principles, Organization, and Directions," a brief review of the establishment of the Massachusetts Medical Society in 1781 and its growth and development is documented by the insertion of various pertinent records of the Society which speak for themselves.

The matter of maintaining the Society's reputation and that of its members is introduced by a section titled, "A Matter of Shading and Degree," taken from a quotation of Franz Ingelfinger in the *New England Journal of Medicine*: "As in all ethical dilemmas, the separation of the proper and the improper is a matter of shading and degree." The typical problems in ethics and discipline are illustrated by five cases. The records, documentation, and decisions made by the Society in each are given. They represent the gamut of problems coming to grievance committees of all medical societies, namely allegations of bribery, sexual assault, drug pushing, quackery, and the "problem or troublesome" member who intentionally or unwittingly causes dissension. In this connection, especially in the case of John Knowles, a quotation from the Book of Ecclesiastes is apt: "Ten things the Lord hateth, the last being he that soweth dissension amongst his brethren." In the matter of shading and degree, when the record and actions of the Society are all boiled down, that quotation may sum up the unfortunate Knowles affair which, as Spencer illustrates by the documentation and actions of the Society, showed the ultimate good sense and judgment of the Society by not overreacting to the gross accusations made by Knowles. He eventually lost credibility.

The section on the *New England Journal of Medicine* is a monograph on the success, problems, and unique position of the house organ of the Massachusetts Medical Society and its preeminent position in the world of medical journalism. The relationship of the Massachusetts Medical Society and the *Journal* is described by Spencer's wit as the Society serving as "So Gentle a Mistress." He then analyzes what makes an editor unique. While the names Garland, Ingelfinger, and Relman are all well known to us, each had a unique style and all contributed to the greatness of the *Journal*. An analysis of the *Journal* would not be complete without the discussion, "The Price of Success is the IRS," an issue for all professional

societies which publish journals. The reasonable approach of the Massachusetts Medical Society in its dealings with the IRS and its determination to establish appropriate and just precedents by the legal route makes extremely interesting reading of two inherently loathsome subjects, taxes and the Internal Revenue Service. The international success and preeminence of the *Journal* is demonstrated in facts and figures.

The public image of the doctor is covered in a section on "Deeds and Images." With proper perspective, the author quotes several sources in the history of mankind in which the physician has had anything but a pretty image and, in a sense, illustrates that there "is nothing new under the sun." Some aspects of the recent negative public reaction to physicians, the plethora of anti-doctor books, poor press, and being the target for many vested interest groups are discussed. A trivial but interesting observation on the issue of professional image is a quotation from one president of the Massachusetts Medical Society who responded to a member's continuous and insistent demands that the Society "do something" to upgrade the image of physicians. He told the member that the best way to improve the physician's image was to look in the mirror.

Spencer introduces his section on the American Medical Association, "That Citadel of Liberalism, Conservatism, and Reactionarism in Chicago," with this observation: "No professional organization has been more misunderstood, maligned, misinterpreted, misquoted, and at times misdirected." His knowledge of the AMA is deep and long and is derived from his active role with the Massachusetts and New England delegations. The importance of the AMA to each physician is clearly delineated in Spencer's analysis. While the organization's shortcomings, and even misdirection at times, are not spared, this balanced view of its importance to physicians and the state societies, and the influence of the Massachusetts delegation is liberally documented.

Matters of dealing with the anti-vivisectionists in the medical research capital of the world and the clash of orthodox medicine with chiropractic at the legislative level illustrate "The Legislative Lament." The successes, failures, effectiveness, and limited clout of the Society are all presented in the author's balanced manner with substantiating documentation.

The last formal chapter addresses the relationship between the Society and Blue Shield, and documents the local and national trans-

(Continued on page 524)

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Book Review

(Continued from page 523)

formation of Blue Shield from plans organized and sponsored by medical societies to service plans with independent stature and control of third-party reimbursement.

The summary of selected actions of the Council of the Massachusetts Medical Society lists the landmark decisions from acupuncture to nuclear energy, including positions on smoking, professional standards review organizations, rate setting, and a whole gamut of problems which are comparable to the opening of a Pandora's box on the past 30 years of organized medicine.

This is a unique book, by a unique author, written in a unique style, about a unique time in the history of medicine.

Robert V. Lewis, MD

Have You Heard? . . .

(Continued from page 506)

tubular bandages, semi-rigid support, and limited motion casts. Unlike conventional hard cast material, the new cast permits early mobility, and its permeable surface promotes dry skin surfaces and is less likely to promote the formation of dermatitis. The system, which according to the company is "the first in the industry," has been under development and clinical testing for six years.

According to a paper in the September 1983 issue of *Archives of Ophthalmology*, researchers in a controlled clinical trial at 12 centers found that laser photocoagulation reduces the risk of visual loss for patients with a history of ocular histoplasmosis. Histoplasmosis is usually only a mild upper respiratory infection which affects millions of persons in the southeastern and midwestern states. While most suffer only a mild infection, the infection travels to the rear of the eye in approximately four per cent of the patients. After ten to 20 years, such patients may be vulnerable to leakage of blood and fluid, resulting in a loss of visual acuity. The researchers also found that argon laser photocoagulation may be the treatment of choice for patients with idiopathic neovascularization.

The Medical Systems Operations Division of the General Electric Company has announced the

introduction of MLX® lateral x-ray image suspension system, a new option that expands the applications of the company's existing vascular systems. This multi-axis lateral x-ray film system is capable of providing fully-angulated biplane cine-angiography studies. The system incorporates several new technologies which are not available in similar units and is expected to be especially useful in the diagnosis of pediatric cardiac disease, and for such procedures as angioplasty. It also provides increased accuracy in ventriculography. The Wisconsin Society of Engineers presented the company with its 1983 Governor's Award in recognition of the advanced technology and recommended it as one of three products for national competition.

• • •

The Surgical Products Division of the 3M Company has developed a disposable skin stapler for closing small incisions. The Precise Five-Shot® and the Precise Ten-Shot® skin staplers, identical in design except for the number of staples per instrument, will facilitate handling and eliminate staple wastage. Intended primarily for use in the hospital operating room or emergency department, they are the only miniaturized instruments that dispense either five or 10 staples. Previously, small-wound closures meant the use of sutures or wasted staples.

• • •

According to Doctor Charles A. Alford, University of Alabama School of Medicine, a high proportion of patients with acquired immune deficiency syndrome (AIDS) and many with herpes are carriers of a cytomegalovirus (CMV). While the CMV is commonly found in otherwise healthy persons, it usually presents no symptoms. By lowering the already-reduced resistance to infection, however, it may well have long-term adverse effects in AIDS and herpes patients. Few clinical laboratories, except in major medical centers, are equipped to detect the presence of the CMV. Alford recommended to participants at a recent Miami conference on "The Family Physician's Approach to the Management of Herpes and AIDS" that these patients be referred to such medical centers for additional diagnostic procedures.

Another speaker at the same conference cautioned against misinterpreting the results of a new laboratory test for AIDS which is being ordered "almost indiscriminately." Doctor Kenneth Sell, Scientific Director, National Institute of Allergy and Infectious Disease, reported that the so-called "T-cell helper/suppressor ratio test" will

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identify one of the principal features of AIDS, ie, a ratio of .2 helper T-cells to every suppressor cell. He noted, however, that other infections may also contribute to a change in the T-cell ratio and that a "simple ratio change is not *ipso facto* diagnostic of AIDS."

Doctor Stephen E. Straus, Director, National Institute of Allergy and Infectious Disease, urged physicians to perform viral culture tests to confirm the presence or absence of herpes. Noting the high reliability of such tests, he emphasized that herpes lesions may present in widely varying forms, many of which are difficult to recognize, even by experienced clinicians.

• • •

Major depression accompanied by a panic disorder in a patient may serve as an important marker for a variety of psychiatric disorders afflicting that patient's near relatives, according to a report in the October 1983 *Archives of General Psychiatry*. In a case-controlled family study of depression involving 133 depressed patients, the researchers found that 58 per cent also displayed anxiety symptoms which met the criteria for agoraphobia, panic disorder, or generalized anxiety disorder. The findings suggest that panic disorder and major depression may partially have a common underlying constitutional predisposition. Noting that this hypothesis would have a significant impact on pharmacologic treatment, the researchers call for a prospective study of the risk in relatives of at least five subject groups.

• • •

An unexplained failure of a single organ may be the strongest predictor of continuing and potentially fatal abdominal sepsis, according to a study reported in the October 1983 issue of *Archives of Surgery*. LTC Victor A. Ferraris, MC, USA, Letterman Army Hospital in San Francisco, notes that, of 29 patients with multiple-organ failure who underwent surgery because of suspected sepsis, continued sepsis occurred in 17 patients because of the development of unexplained single-organ failure. He concludes that organ failure is a strong indicator of sepsis and its presence justifies aggressive operative therapy.

• • •

The Sequoia-Turner Corporation recently announced the availability of a new low-cost spectrophotometer which features an 8-nm bandwidth and a convenient digital display of concentration, factor, absorption, and transmission. The

Model 390 Spectrophotometer® has a continuous wavelength range of 330 nm to 1,000 nm to cover all routine colometric tests. The range can be extended to 210 nm with a UV accessory. The new instrument has exceptional photometric linearity as a result of the combined narrow bandwidth and minimal stray light. The Sequoia-Turner Corporation is a California-based company which manufactures spectrophotometers, fluorometers, and hematology analyzers.

• • •

While computer terminals, word processors, and similar devices do not pose a radiation hazard, some of the seven million Americans who use video display terminals (VDT) on the job may report such temporary health problems as eye irritation, headaches, or back or arm pain. According to a report just released by the American Council on Science and Health, the manner in which the equipment is used in a given workplace may be responsible. If terminals are introduced into an office without suitable office modifications, problems may result from improper illumination, glare, or poorly-designed workstations that do not permit persons to see and reach the keyboard, screen, and auxiliary equipment comfortably. Health problems may also arise, the Council postulates, from the psychological stress factors associated with the use of new equipment.

• • •

According to recent estimates from the Mount Sinai Medical Center of Greater Miami, one of six American couples suffers from infertility at some point. Infertility usually is defined as the failure to conceive after one year. Because of the use of new hormonal drugs to stimulate ovulation, ultrasound to trace the process, and laser microsurgery to unblock Fallopian tubes, it may be that as many as 75 per cent of cases of infertility can be reversed. Clinical researchers at the hospital currently are testing the efficacy of Factrel®, a new drug which may stimulate ovulation and reduce the number of multiple births associated with other infertility drugs. Results from the study should be available by the end of 1984.

• • •

The Apex Medical Corporation recently introduced a series of improved medical spoons, oral syringes, and medicine droppers with precisely calibrated markings for cubic centimeters and milliliters. The common kitchen teaspoon usually chosen to administer liquid medication is noto-

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riously inaccurate as a measuring device. A study by the University of Michigan College of Pharmacy found that household teaspoons may vary by as much as 450 per cent.

• • •

The General Electric Company has devised a form to record obstetrical ultrasound examinations which allows physicians to enter data for multiple examinations during pregnancy. The form provides columns for ultrasound fetal measurements from the initial examination until the end of the first trimester. Its reverse side contains graphs for the entry of individual measurements of the crown rump length, biparietal diameter, head circumference, abdominal circumference, and femur length.

• • •

The Reynolds Metals Company recently utilized "space-age technology" to develop an advanced system of administering some drugs. Known as transdermal medication, the system delivers medication through the skin at a constant rate over a specific time period through an adhesive bandage-like patch. The aluminum foil laminate patches were designed to meet the exact requirements of such drugs as Transderm Scop®, an anti-nauseant developed by Ciba-Geigy, and Nitro-Dur®, a nitroglycerine product of Key Pharmaceutical. Company officials estimate that possibly 35 per cent of all drugs could be candidates for transdermal delivery.

• • •

The *Journal of the American Dental Association* recently reported that saccharin, long suspected of reducing tooth decay, may actually inhibit its development. Researchers at the University of Connecticut fed a sucrose-laden diet to a breed of rats known to be highly susceptible to dental caries, and supplemented the diet with saccharin. Aspartame was added to the diet of a control group, and the third group received unmodified sucrose. The saccharin group showed almost 40 per cent fewer dental caries than the aspartame controls and the group fed an unmodified diet.

Also, the Calorie Control Council's *Commentary*, reporting on a May 1983 meeting of physicians, toxicologists, and epidemiologists at Duke University to review the current literature on saccharin, noted the panel's conclusion that the food additive is "unlikely to present a cancer risk" in human subjects. High doses in rats, however, have resulted in biochemical and physiological

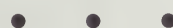
changes which do not, under normal conditions, occur in human subjects. While the Food and Drug Administration (FDA) has attempted to ban saccharin in the past, Congress recently extended for the third time a moratorium on a proposed FDA ban.



Genetic System Corporation recently announced the successful development of monoclonal antibodies against *Pseudomonas*. Testing in laboratory animals indicates, according to company officials, that such antibodies may well protect human subjects from the effects of bacteria. While *Pseudomonas* occurs naturally in man, it poses no significant health problems except for persons with compromised immunological systems, such as burn victims and cancer and cystic fibrosis patients. In collaboration with Cutter Biological Division of Miles Laboratories, the company plans to spend almost \$4 million on an expanded research program to investigate other major bacterial infections affecting hospital patients.



The Joint Commission on the Accreditation of Hospitals (JCAH) has announced publication of the 1984 edition of the *Accreditation Manual for Hospitals*. The revised edition includes extensive changes in the standards covering hospital governing bodies, management and administrative services, and clinical support services. The *Manual* also contains standards for hospitals which provide psychiatric and substance abuse services. The general administrative policies and procedures which regulate accreditation surveys have also been revised extensively. The *Manual* is available at \$35 a copy from JCAH, 875 North Michigan Avenue, Chicago, Illinois 60611.



Advanced Technology Laboratories (ATL), a division of the Squibb Company, has introduced three new units which refine its existing diagnostic imaging equipment. The NeuroSectOR® ultrasound system provides continuous ultrasound images during delicate spinal procedures which were previously performed without the aid of a surgical ultrasound system. The new system allows surgeons to visualize such masses as soft tissue lesions without probing or manipulating the spinal cord, and an optional Fixation Device® permits the performance of stereotaxic surgical procedures with ultrasonography. The new

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The *Guide's* listings will be based on a questionnaire sent in October to RIMS members only. If you are a Society member and would like to be included in the *Guide*, return your form today. For additional copies, call Edwina L. Rego at the Society's offices (401/331-3207).

The deadline for submission is December 31, 1983.

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• • •

A comprehensive survey conducted in Rhode Island suggests that simple sore throats are often treated inappropriately and inefficiently. More than 157,000 throat cultures were performed in 1980 for the state's population of 930,000, and some 87 per cent of primary care physicians prescribed antibiotic therapy before the culture results were available. Moreover, some 40 per cent continued therapy for 10 days regardless of the test results. Writing in the November 4, 1983 issue of the *Journal of the American Medical Association*, Doctors Scott D. Holmberg and Gerald A. Faich noted that as the incidence of acute rheumatic fever is rare in Rhode Island, the cost effectiveness of antibiotic therapy is "doubtful." The researchers were affiliated with the Roger Williams General Hospital in Providence at the time of the study.

• • •

A report in the November 1983 issue of *Archives of Pathology and Laboratory Medicine* describes two cases of angioimmunoblastic lymphadenopathy with dysproteinemia (AILD) occurring in homosexual men who also demonstrated symptoms of the acquired immune deficiency syndrome (AIDS). Researchers from the University of California at San Francisco School of Medicine note that while the two diseases share many clinical and laboratory findings, the relationship between them remains to be clarified.

• • •

While the use of lithium salts to treat manic-depressive syndromes is frequent, new research has demonstrated that certain patients may be especially susceptible to lithium and that, for these patients, brain damage could result from using the drug.

According to a report in the November 1983 issue of *Archives of Neurology*, researchers from the Christchurch (New Zealand) School of Medicine reviewed 17 cases of persistent neurological

damage resulting from lithium therapy. They found that multiple sites of the nervous system and not just the brain of the lithium sensitive patients were affected. Lithium salts are used to treat manic-depressive disorders by reducing norepinephrine levels. Manias are thought to be associated with an excess of norepinephrine, while depression may result from a functional deficiency of the neurotransmitter. The researchers suggest that individual drug susceptibility and, not inappropriately high dosages, may precipitate neurological damage.

• • •

It is as dangerous to chew tobacco as to smoke it, according to a paper in the November 1983 issue of *Archives of Ophthalmology*. A study of 290 patients at the Bowman Gray School of Medicine revealed that 57 chewed snuff exclusive of any use of cigarettes, pipes, or alcohol. They were primarily white women older than 60 years who had "dipped" snuff for more than 40 years. Approximately 49 per cent died of carcinoma or from iatrogenic complications, and the five-year survival rate was only 25 per cent.

• • •

The General Electric Company recently introduced a mobile fluoroscopic system for use in surgical suites which provides improved image performance in such parts of the body as the lateral lumbar region and lateral hips. The C-arm Polarix® ZE system should be especially useful in chemonucleolysis which requires imaging through the lateral lumbar area. Other applications include hip pinning, kidney stone removal, intramedullary fixation of the femur, tibia and fibular nailing, cardiac pacemaker implants, peripheral lung biopsies, and gall bladder surgery.

• • •

The increased survival of low-birth weight infants has resulted in a greater incidence of retrolental fibroplasia, a form of eye damage that can lead to visual disturbances and blindness. Associated with the use of highly-concentrated oxygen, the condition is limited to premature infants weighing less than 1,500 g at birth, as emphasized in a report in the November 1983 issue of *Archives of Ophthalmology*. The paper identifies infants at the greatest risk as those who require mechanically-assisted ventilation because of respiratory distress and notes that there seems to be no way to prevent fibroplasia.

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References: 1. Kales A et al: *J Clin Pharmacol* 17:207-213, Apr 1977 and data on file, Hoffmann-La Roche Inc., Nutley, NJ. 2. Kales A: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. 3. Zimmerman AM: *Curr Ther Res* 13:18-22, Jan 1971. 4. Kales A et al: *JAMA* 241:1692-1695, Apr 20, 1979. 5. Kales A, Scharf MB, Kales JD: *Science* 201:1039-1041, Sep 15, 1978. 6. Kales A et al: *Clin Pharmacol Ther* 19:576-583, May 1976. 7. Kales A, Kales JD: *Pharmacol Physicians* 4:1-6, Sep 1970. 8. Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc* 27:541-546, Dec 1979. 9. Dement WC et al: *Behav Med* 5:25-31, Oct 1978. 10. Vogel GW: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. 11. Karacan I, Williams RL, Smith JR: The

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Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, e.g., excitement, stimulation and hyperactivity.

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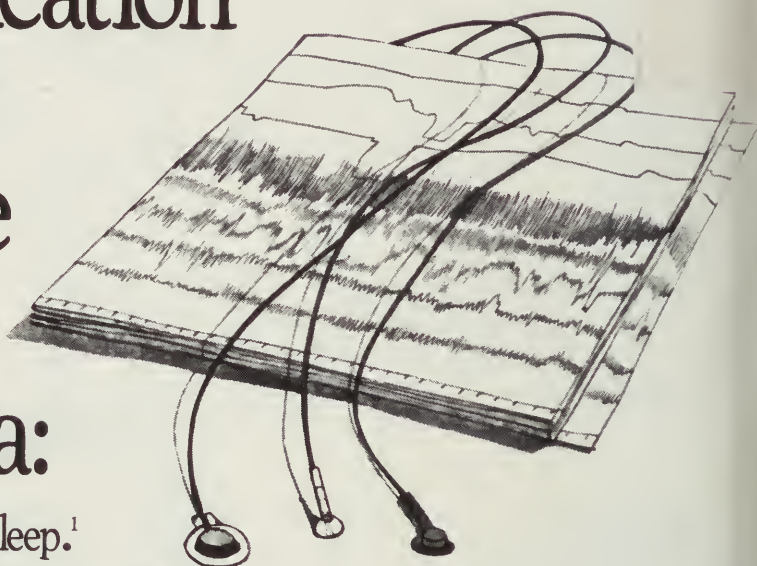
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